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EDITORIAL

The Relations between Physicians and Pharmacists.

FOR many months past the subject of the relations existing between the medical and pharmaceutical professions has received an unusual amount of attention. We have often felt inclined to share in the controversy, but the subject is so complicated, and the statements of the questions at issue involve so much space, that we have preferred to leave it to the natural course of events, feeling that where both parties are so positively convinced of their rights and grievances, no adjustment on a basis affording mutual advantages is likely to be attained.

The principal reason for this is the fact that the general public have quite as much interest in the subject as either doctors or apothecaries, and no one can for a moment entertain the belief that the third party in the controversy cares one whit for the interests of either profession, or will submit for a moment to be dictated to with regard to whom they shall resort to for medical advice, or whether they shall prefer secret nostrums to pharmacopœial preparations.

It would, no doubt, be greatly for the advantage of the professional parties if every one who suffers with a bodily ailment were to go to a physician of respectable professional attainments for advice as to what should be done for relief, and, having so taken counsel, should decline to receive his remedies from the physician, but resort with his physician's prescription to a competent and honest pharmacist and buy his medicines. Unfortunately, however, this accommodating spirit on the part of the patient does not usually exist, and it is much to be doubted if it ever will, at least in this country.

The professions in Philadelphia have lately held meetings and discussed the subject in several of its bearings, that is to say, a few of the members of each profession have done so, and it has resulted in—*nothing*, unless it be that the gap between the two is wider than it was before, and more apparent.

The time has gone by when physicians can claim that the pharmacists are merely their assistants, or can dictate what course they shall pursue in the conduct of their business, and the question settles itself rapidly into this—so far as the third and most interested party is concerned—shall I, as a rule, pay for my advice and medicine, or pay for my advice and have the medicine given to me, or pay for the medicine and have the advice gratis, or get both for nothing? Both professions will do well to look this situation squarely in the face and meet it as best they can, for it will be apparent to any one who has watched the progress of medical affairs for even a few years, that there is a growing disposition on the part of the community—in cities especially—to resort to public charities for medical relief when it is convenient to do so.

The next remove is to patronize the apothecary, and take the chances of his being able to exercise discretion in adapting a remedy to the occasion.

In more serious cases the person who has experience in diagnosis is consulted, and when he furnishes the medicine that he thinks the case requires, he has, in the estimation of the public, the advantage of him who gives advice and a prescription.

In this Philadelphia controversy a great deal has been said about the ownership of prescriptions, repeating prescriptions, counter prescribing, and proprietary remedies. The first is strictly a question of law and not of sentiment, and thus far courts have decided that the prescription belongs to the person who pays for it. If the doctor chooses, to save himself trouble, to make an arrangement with a pharmacist to dispense his medicines for him and furnish them gratis to the patient, the physician would then, doubtless, have some right to the future possession of the order, in the same way that the drawer of a check acquires the check from the bank upon which it was drawn; but when no such arrangement exists, the question lies entirely between the prescriber and the patient, and the

pharmacist has nothing to do with it except as the prescription may serve as a voucher to show the nature of the thing supplied by him.

This being the case, the right of repeating prescriptions appears to be thus: If the patient accepts the prescription with the understanding that it is not to be repeated, and the fact is so indicated on the prescription, most pharmacists, as a matter of courtesy, would decline to furnish it a second time without the physician's consent. But suppose the patient, seeing the doctor's direction, "not to be repeated," on the margin of the prescription, should cut it off, and claim the right to do with it as he may please? The only way to avoid repetitions would then be to either write the injunction across its face so that it could not be separated, or notify every pharmacist in the neighborhood not to repeat any prescription signed by the doctor without an explicit order to do so. Again, supposing *this* to be the case: the patient, in the malice of his heart, procures a careful copy of the prescription, omits the name of the doctor entirely, and presents the anonymous formula to the pharmacist. These are by no means all of the complications that might be mentioned, but they will suffice to show that it is by no means a simple affair.

Again we have "counter prescribing." That this practice is quite general among pharmacists no one who knows much of the business can doubt. If it were not so we would hardly have had occasion to notice, of late, a work which is avowedly published for pharmacists; the nature of which would prevent its purchase by physicians to any considerable extent, and which contains a large number of formulas, adapted to the treatment of a great variety of serious ailments, which are mentioned by name; nor would we have been likely to have read in the advertising pages of one of our distinguished pharmaceutical cotemporaries (accompanied with an editorial indorsement): "**Druggists!** When Treating Your Patients for any Disorder You will Find the Book Advertised below Invaluable," etc.

We believe that the great majority of reputable pharmacists would be glad to avoid giving advice, but just in proportion to the amount of competition that exists in their business are they obliged to do it or give up their business. In most instances we believe the practice is confined to what appear to be trivial ailments, and refusal on the part of one pharmacist to prescribe a remedy would simply result in the transfer of the would-be customer's patronage to another establishment, not only on this, but on all subsequent occasions. If it be the will of the public to buy the medicine and demand advice gratis, it is to be regretted, and does not show a proper appreciation of competent medical advice; but it is none the less a fact, for which the doctors and the public are quite as much to blame as the pharmacists.

Lastly—at least for the present—the nostrums. It is not far from the truth to say that there is hardly a nostrum sold to any extent that has not in one way or another the indorsement of the medical profession. The history of the Medical Society of the County of New York during the past three years, the advertising pages of the medical journals, and the columns of the religious and secular press will show any one who will take the trouble to read them, that there is hardly a nostrum or trade-mark remedy so poor and vile that it cannot show the indorsement of some one who signs his name with an M.D., and if some who are eminent in the medical profession have, apparently, no scruples about lending their influence to help the sale of things about which they cannot be informed except in the most superficial way, and over the manufacture and sale of which they possess no control, where shall the line be drawn? When men of whom we have a right to expect better things will give their names for such purposes, it is not for the medical profession to point the finger at pharmacists and throw upon them the entire blame for creating the present state of affairs so far as relates to proprietary articles.

Suppose that the pharmacists of Philadelphia *had* agreed to hide their stock of proprietary remedies in cupboards and behind curtained doors, and take down their placards and signs, then the sale of these articles would at once be undertaken by dealers in fancy-goods and groceries. Already is this being done to some extent in New York, and a recent correspondent of the *Pharmaceutical Journal*, of London, writes: "It is bad enough to see grocers selling Epsom salt, castor oil, seidlitz powders, antibilious pills, digestive pills, Godfrey's cordial, spirit of nitre, etc., etc.; but when my customers tell me that Mr. Catchall, the grocer, recommends his 'cough mixture' and 'teething powders,' it seems difficult to find out how to compensate ourselves for the expense we have been put to."

Members of the medical profession in this country who are disposed to drive the sale of proprietary remedies out of the hands of educated pharmacists may well consider before going further whether it is not better for all parties to leave them where they are, and meantime see that the beam is removed from the eyes of their own kin before offering to pluck the mote from the eyes of those who are or who should be their co-laborators.

Dr. Richard O. Cowling, of Louisville, Ky., died of endocarditis on the 2d of April, at the age of 42 years. As the founder and principal editor of the *Louisville Medical News* he became widely known, and it is venturing little to say that he was one of the most able and brilliant medical editors that this country has ever possessed.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS

Rhamnus Purshiana DC.*

RHAMNUS PURSHIANA DC. (or *Rhamnus alnifolius*† Pursh.; *Frangula Purshiana* Cooper) is a shrub or small tree, belonging to the natural order Rhamnaceæ, sometimes attaining a height of 20 feet, found in the Rocky Mountains and westwardly to the Pacific Ocean, and extending from about the latitude of Mendocino County, California, to the British territory. The branches are round and pubescent, and the young branches tomentose; leaves are elliptic, 2 to 7 inches long, 1 to 3 inches broad, mostly acute, obtuse at base, and are borne on leaf-stalks nearly an inch in length. When young, they are covered with a dense pubescence on the under surface, but become glabrous and bright-green when old. The margin of the leaf is regularly dentate, with numerous small, serrate teeth, except at the base. The leaves closely resemble, but are not so slender as those of the alder-buckthorn of our Southern States (*Frangula caroliniana* Gray). The flowers are small, white, and appear after the leaves have matured. They are borne in close, umbellar clusters, on pubescent peduncles, slightly longer than the leaf-stalks. The pedicles are short, about ¼ inch in length when in flower, but, in fruit, elongate to an inch or more. The calyx is small, 5-cleft, and pubescent on the outer surface. The petals are 5, minute, white, shorter than the calyx-lobes, and 2-cleft at the apex. Stamens 5, opposite, and embrace by the concave petals. The pistil, which is much shorter than the calyx-tube, consists of a free, 3-celled and 3-ovuled ovary, a short style, and a 3-lobed stigma. The fruit is a small, black drupe, obtusely 3-angled, about the size of a large pea, and contains 3 black, shining seeds.

The bark is the part used in medicine, and has long been known in domestic practice among Western people as a mild cathartic. We have lately come into possession of a miscellaneous collection of objects of natural history, chiefly plants and parts of plants, such as seeds, berries, barks, etc., gathered by Ed. A. Mayer in the Western States, during an overland journey to California in 1850. One of the specimens, labelled "bark of small tree; used as a laxative by Indians and trappers," is unmistakably from Rhamnus purshiana. It has been known on the Pacific coast as *chittem* or *shittem bark*,* and has been introduced under the unwarranted name "cascara sagrada," or "sacred bark," which name has never been used in any of the Western States to denote this or any other drug.

The commercial bark appears in curved pieces or quills in various lengths, and from $\frac{1}{16}$ to $\frac{1}{8}$ inch in thickness. Externally it is smooth or nearly so, gray, sometimes with whitish patches; after the removal of the external layer, brown or reddish-brown; the inner surface ranges in color from that of a light-yellow to that of leather. It breaks with a nearly smooth fracture, is colored red by potassa, has no odor, but imparts an insipid, bitter-sweetish, slightly astringent taste when chewed. Prof. Albert B. Prescott, in 1879, analyzed the bark, and found it to contain a red resin, colored brown by potassa; a resinous body, not colored by potassa, but red-brown by sulphuric acid; a white sublimable crystalline compound; a brown resin colored purple-red by potassa; tannin, oxalic and malic acids, and other common vegetable principles.

So far as published reports of the medicinal properties of this bark can be relied on, it seems to partake of the rather common property of the genus Rhamnus in containing a laxative principle, which appears to be somewhat milder in action than that of Rhamnus catharticus or Rhamnus Frangula. It is now conceded that, like the last-named, it is particularly serviceable as a remedy in habitual constipation, but it does not possess any special advantages not afforded by the other. Its use, however, deserves encouragement, as it is a domestic substitute for the European species of Rhamnus.

Influence of Soil Upon the Tannin of Oak Bark.—M. FLEISCHEN has made a comparison between the bark of young oaks grown respectively upon sandy loams, upon peaty soils that had been once burned, and upon a similar soil that had thrice been burned, and found the proportion of tannin highest in the product of peaty soils.

* The plate is copied from Hooker's Flora Bor.-Amer. I., t. 43. The text is compiled from *King and Lloyd, Supplement to the Amer. Dispensatory*. 8vo. Cincinnati, 1880. *Brewer, Watson and Gray, Flora of California*, I., 100. *Torrey and Gray, Flora*, I., 262, and other reliable sources.

† Hooker, in *Flora Bor. Am.*, has Rhamnus Purshian*us*. Many other authors have treated Rhamnus as a masculine; but it is much more common as a feminine. In Greek, ῥάμνος is always fem. In classic Latin, the masculine occurs, so far as we can discover, only once in *Plinius, Hist. Nat.*, 24. 14 (76), 124. In mediæval and later Latin, it is very frequently treated as a masculine.—ED. N. R.

* In allusion to the Biblical שִׁטָּה *shittâ'*, plur. שִׁטִּים *shittîm*, which furnishes a wood, from which the tabernacle and other holy utensils and ornaments were constructed. The name, though in the Bible applied undoubtedly to a species of *Acacia* (Egyptian: *Ssant* or *sont*, the root of which is identical with that of *shittâ'*) was probably chosen through some connection of idea with the only wood available, among other offerings, to the people in the wilderness, as mentioned in Exodus xxv. 5.

At what time this name was first applied, in the West, to the bark of *Rh. Purshiana*, we have no means of ascertaining. But it may have been given either by some religious and bible-learned settlers, or possibly by interested parties, and, no doubt, in quite recent times.

[Original Communication.]

DIALYZED TINCTURES.

BY CHARLES F. HEEBNER, PH.G.*

Query: Can a dialyzed tincture be prepared from drugs having alkaloidal active principles, so as to fairly represent in their medicinal strength the corresponding official tinctures of the U. S. P.?

The interesting and highly important discoveries made by Graham in 1861, upon the separation of crystalline from uncrystallizable colloid bodies, by means of dialysis, were the means of recommending this process to the attention of the chemist and pharmacist as a method of effecting certain kinds of analyses or separations.

The design of this paper is to demonstrate, from a chemical point of view, that solutions of alkaloids may be prepared by dialysis from powdered drugs, and that these solutions will have the same alkaloidal strength as the official tinctures prepared according to the formulæ of the U. S. P.

This proposition received additional interest, from the fact that in the thirteenth edition of the *United States Dispensatory* (foot-note on page 935) the following statement is made, viz.: "Notwithstanding the very important aid promised to us by this process to pharmacy when first announced, we are informed that it has proved less practically useful than was hoped, as the great dilution of the diffusate renders it liable to chemical change in the amount of evaporation necessary."

Many of our drugs, such as opium, aconite, nux vomica, belladonna, etc., contain salts which are soluble in water, and to which their activity is due. They also contain various gummy, resinoid, albuminoid, fatty, protein, extractive, and coloring matters, which are objectionable from a pharmaceutical and physiological point of view.

In endeavoring to ascertain the alkaloidal strength of a tincture, we are obliged to remove these inert principles, as they interfere with the action of chemical reagents, and their removal is a most embarrassing task, particularly if we have had but a small portion of tincture to be subjected to analysis.

In order to obtain a standard with which to compare the results that might be obtained in the experiments, a sufficient quantity of the following drugs was reserved for all of the experiments detailed below, viz.: opium, belladonna leaf, aconite root, and nux vomica, in powder suitable for making tinctures.

Sixteen (16) fluid ounces of tincture were prepared from each of the above-mentioned drugs by the U. S. P. process. Eight (8) fluid ounces of each of these tinctures were subjected to the following process of assay, for the purpose of obtaining a quantitative estimation of the amount of alkaloid present. This process is a modification and combination of several well-known methods for the determination of alkaloids. (For the sake of convenience in referring to them, the process of assay is divided into *six* successive steps of manipulation, designated by the letters *a*, *b*, *c*, *d*, *e*, *f*.)

a. Solution of subacetate of lead is added to the tincture until no more precipitate is produced. This precipitate is poured on a filter and washed with distilled water until the filtrate is colorless. The washed lead precipitate, made up of organic matter, is then treated

b. with hydrogen sulphide to decompose the lead compound; sulphide of lead subsides, and the free acid and combined alkaloids remain in solution. The precipitated lead sulphide is washed with distilled water; the

c. washings and filtrate are then evaporated to a small bulk and treated with an equal volume of strong alcohol, causing the precipitation of pectin and albuminoid principles. This precipitate is washed with alcohol on a filter, and the filtrate and washings are evaporated at a temperature below 100° F. to dryness.

d. This dried residue is dissolved in a small bulk of distilled water, and, after twelve (12) hours' maceration, the acid solution of alkaloids is filtered from the residuary organic matter, and made slightly alkaline by the addition of a dilute solution of soda.

e. The alkaline solution is evaporated at a gentle heat to dryness and reduced to a fine powder, and exhausted with amylic alcohol.

f. The amylic alcohol is shaken vigorously with one-fourth its bulk of distilled water, acidulated with sulphuric acid; this is repeated twice. The aqueous acid solution of alkaloids, having been separated with a separatory funnel, is then evaporated to a definite bulk [in the experiments of this series, to two (2) fluid ounces], filtered, and titrated with Mayer's one-half normal solution of potassium iodo-hydrargyrate.

The composition of Mayer's solution is as follows, viz.: 13,546 gm. of mercuric chloride, and 49.8 gm. of potassic iodide in 1 liter. The results are based on the fact that a double iodide of the alkaloid is obtained, which is very insoluble in water. The end of the reaction can only be determined by the absence of further precipitation, which may be ascertained by filtering a drop of the liquid under examination, after each addition of the reagent, upon a watch glass, and bringing the same in contact with one drop of the titrating solution.

The one-half normal Mayer's solution is made by diluting the normal solution with an equal bulk of distilled water. Dragendorff (in "Werthbestimmung") recommends the use of this diluted Mayer's solution, and advises that it should be added very slowly, drop by drop, in

* Abstract of a thesis presented to the College of Pharmacy of the City of New York, March, 1881.

order that the expected precipitate may be crystalline, and may be deposited quickly. If the addition is made too rapidly, the precipitate will be amorphous, and requires a long time to assume the crystalline form.

The results obtained at the completion of step *f* of assay process will be given below. In order to ascertain whether a solution of the alkaloids of these drugs could be obtained by dialysis, I moistened different portions of the powdered nux vomica with variable proportions of alcohol and water, with the intention of checking fermentation. The mixture finally decided upon was a menstruum containing twenty-five per cent of alcohol. The drug was made into a soft magma with the menstruum and placed on parchment, and was subjected to the process of dialysis for one week; at the end of that time the dialysate was filtered, and a few drops tested for alkaloid with Mayer's solution produced a dense white precipitate.

leaf, 2 troy ounces. While these drugs were being subjected to the process of dialysis, the diffusate of aconite root was subjected to a physiological test, which proved that this method of testing is attended with difficulties, which are far from pleasant, though decidedly convincing. A few drops of the diffusate were placed upon the tongue. In a few moments the lips, tongue, and throat became numb, the lining of the throat felt hard, like leather; in fact, the symptoms of poisoning by aconitia increased to such an extent that I was obliged to resort to a dose of tincture of nux vomica for relief.

From each of the drugs subjected to dialysis sixteen (16) fluid ounces of dialyzed tincture were prepared.

By comparing the dialyzed tincture of aconite with the U. S. P. tincture, it will be noticed that the former has a pleasant odor, far superior to that of the latter; it also has a sweet taste, with no acridity. The same is true of the dialyzed

Weight of fl. ℥ xvi. of Tincture.

TINCTURE.	ACONITE.		NUX VOMICA.		OPIUM.		BELLADONNA.	
	WEIGHT.	SP. GR.	WEIGHT.	SP. GR.	WEIGHT.	SP. GR.	WEIGHT.	SP. GR.
Dialyzed*	7266.2 grs.	0.9965	7119 grs.	0.9764	7190 grs.	0.9862	7169 grs.	0.9833
U. S. P.	6165.3 grs.	0.8592	6049 grs.	0.8297	6961 grs.	0.9548	6954 grs.	0.9536
Difference	1100.9 grs.		1070 grs.		229 grs.		215 grs.	

The diffusate was then subjected to the same process of assay, as were the U. S. P. tinctures.

After the separation of the aqueous solution of alkaloids from the amylic alcohol (step *f* of assay process), the nearly colorless solution was tested for alkaloidal reaction with the following reagents, and with the following results, viz.:

Platinic chloride produced a *yellow* precipitate.
Mercuric chloride produced a *white* precipitate.
Mayer's solution of potassium iodo-hydrargyrate produced a *dense white* precipitate.
Marmé's test† produced a *dense white* precipitate.
Nitric acid produced an *orange-red color* with precipitate.
Potassium hydrate and ammonia produced a *white* precipitate.
Potassic bichromate produced a *yellow* precipitate.
Auric chloride produced a *light-yellow* precipitate.

The above tests proved conclusively the presence of strychnia and brucia.

The next step was to make experiments upon a definite quantity of the drug, and estimate the amount of alkaloid present in the diffusate. Accordingly, with the intention of obtaining sixteen (16) fluid ounces of the dialysate, the same amount of drug was used as is directed by the U. S. P. for preparing the officinal tinctures, viz.: powdered aconite root, 6 troy ounces; powdered nux vomica, 4 troy ounces; powdered opium, 1¼ troy ounces; powdered belladonna

* Containing 25 per cent of alcohol.
† CdI_2, 2 parts; KI, 4 parts; H_2O, 12 parts.

tincture of nux vomica, which is nearly colorless. The dialyzed tincture of opium is an elegant preparation; it has scarcely any of the acrid nauseous taste which is so characteristic in the officinal tincture, and the odor is far more pleasant; its color is reddish brown.

The dialyzed tincture of belladonna is also as far superior to the officinal tincture as those already mentioned, and has a pleasant taste.*

The above table shows the difference in weight between the two kinds of tinctures.

Eight (8) fluid ounces of each of these dialyzed tinctures were carried through the same process of assay, for estimation of alkaloidal strength, as the officinal tinctures spoken of above.

Result.—Amount of Mayer's one-half normal solution required to produce complete precipitation:

TINCTURE.	ACONITE.	BELLA.	NUX VOM.	OPIUM.
U. S. P.	6.5 cc.	†2.8 cc.	7.7 cc.	53. cc.
Dialyzed	†7.2 cc.	†3.3 cc.	7.2 cc.	74. cc.

* Samples of all these preparations were submitted by the author.

† The aconite and belladonna gave a marked precipitation, but, on account of not having added the test solution slowly enough, the precipitate was amorphous, and could not be gathered upon a filter.

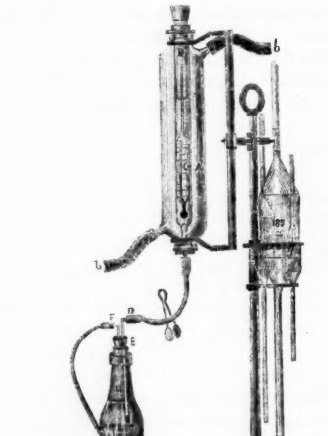
While carrying the tinctures through the series of experiments mentioned above, after the completion of step *e* of assay process, a considerable amount of residue was obtained from the U. S. P. tinctures, which represents the albuminoid matter, etc., while the dialyzed tinctures showed none whatever. The U. S. P. tinctures presented a large amount of residue after the completion of step *e* of the assay process, while the dialyzed tinctures presented a much smaller amount. Solution of subacetate of lead failed to remove all of the coloring matter from the official tincture, probably on account of the presence of alcohol. This excess of coloring matter has been dissolved in part by the amylic alcohol, which was used in steps *e* and *f* of assay process, particularly with the opium, while in that used for a similar purpose with the dialyzed tinctures scarcely any coloring matter is perceptible.

From the above notes, it may at once be inferred that the dialyzed tinctures excel the officinal tinctures in every respect, and, in their alkaloidal characteristics, may be considered equal, if not superior, to the alcoholic extractive tinctures of the U. S. P., though physiological experiments are required to demonstrate their medicinal activity before we can accept the strong chemical evidence submitted in this paper.

In conclusion, we may state with great confidence that dialyzed tinctures, or solutions having the official degree of strength, may be prepared from drugs having active crystallizable principles; therefore the query of this paper is answered affirmatively.

A New Lactometer.

For the accurate determination of fat in milk, gravimetric methods have heretofore alone given reliable results, while the legitimate use of lactometers has chiefly been confined to examinations made with a view to ascertain whether a certain kind of milk was above or below a given standard. Prof. Soxhlet, of Munich, has now constructed an apparatus which permits reliable results to be obtained also by the lactometer. The cooler or condensing tube *A*, which may be revolved about its axis, contains a narrower glass tube *B*, within which is placed the lactometer *C*. The lower bulb of the latter carries three projecting points to prevent it from closing the lower orifice. Upon the scale of the lactometer are marked degrees running from 43 to 66, corresponding to the spec. grav. 0.743 to 0.766 at 17.5° C. The lactometer is also provided with a thermometer, graduated in one-fifths, and permitting one-tenth of a degree to be distinguished. To *B* is attached the flexible tube *D*, the other end of which is connected with the tube *E*, as shown in the figure. A shorter tube *F*, which enters the flask *D*, is connected with a rubber blowing bulb. The flask *D* has a capacity of about 300 *cc.* When using the apparatus, 200 *cc.* of the milk to be tested, which must be made thoroughly uniform by stirring, are first introduced in the flask, then 10 *cc.* of solution of potassa, and, after thorough agitation, 60 *cc.* of water-washed ether, all at a temperature of 17.5° C. The flask is immediately stoppered, thoroughly shaken, and set for some time (from 1 to 2 hours) in a vessel of water of the same temperature. On standing, the ether will rise to the top, and will contain all the milk-fat in solution. By gentle blowing with the bulb *C*, the ethereal layer is driven through the tube *D* into the glass tube *B*, where it will cause the lactometer to float as soon as a sufficient quantity has entered. The pinch-cock in the flexible tube *D* having then been closed, the tube *B* is likewise closed



Soxhlet's Lactometer.

with a stopper. To preserve the temperature of the ethereal liquid, the wide outer tube *A* is previously filled with water. As soon as the spindle floats freely, and the temperature is correct, the degree on the scale is read of, for which purpose the lower curve of the meniscus is observed. If the above temperature cannot be obtained, it is necessary to add, for each degree of temperature above 17.5° C., one degree on the scale, and for every degree of temperature below 17.5° C., to deduct one degree on the scale. After the experiment the apparatus is washed out with ether and dried.

The reliability of the results obtained with this apparatus is shown by the fact that they differed from those obtained by gravimetric methods by only 0.07 per cent. The given proportions and temperature have been chosen after careful comparison with others, as those which are the most favorable to accurate results.—*Chemiker Zeitung*, 1881, No. 1.

The Salicylates.

PROF. PROSSER JAMES, of London, writes to the *British Medical Journal* of March 19th: In acute rheumatism, salicin seems likely to maintain its pre-eminence, because in this disease it is necessary to bring the patient rapidly under the influence of the remedy. This can only be accomplished by full doses at frequent intervals; and salicin seems to be more readily tolerated than salicylic acid or the salicylates. Indeed, very disagreeable, not to say dangerous, symptoms arise with these salts, as testified by Dr. Charteris and many others. Where, however, it is not necessary to saturate the system quickly with the drug, no such disagreeable effects will occur, and the salicylates of sodium and other bases deserve a more extensive trial. All produce similar effects, so far as the acid is concerned, each giving rise to variations due to its respective base.

Salicylate of Ammonium.—When it is merely desired to obtain a freely soluble and diffusible combination of salicylic acid, ammonia may be substituted for soda, and the salt thus obtained administered in corresponding quantities, the only differences in the effects being due to the change of base.

Salicylate of Potassium may be first named as a substitute for the soda salt; it is similar in taste, very soluble, and may be administered in the same manner, either in single massive doses, or in smaller quantities at frequent intervals. About three years ago, I took two ounces of it, in doses of half a teaspoonful to a teaspoonful once a day. I have also taken smaller doses more frequently, the effects being precisely similar to those produced by the soda salt. Salicylate of potassium is to be preferred whenever it is desirable to introduce potash into the system rather than soda. This is often the case in the gouty diathesis, in some forms of dyspepsia, in the various manifestations of lithiasis, and in some other conditions.

Salicylate of Lithium is the next preparation I would introduce. It is not so easily made; or, at any rate, my early experiments in small quantities were not very satisfactory. I therefore asked Messrs. Blake, Sandford, and Blake, to make some. At first, the slightest variations in the process gave rise to an unexpected variety in the product, but now a salicylate of lithium of uniform appearance and quality may be obtained. I recommend it in preference to either the soda or the potash salt when it is desirable to administer a salicylate to gouty patients, or to persons suffering from the presence of uric acid. In fact, where lithia is indicated, it may be given in this form, provided it is desirable to give the salicylic acid, which latter may, in other cases, be given at the same time that lithia in some other form is being taken; as, *e. g.*, during a course of lithia water.

Salicylate of Calcium.—In consequence of the affinity of salicylic acid for lime, the teeth may be acted on, and a mistrust has been expressed lest even the bones might suffer from a long continuance of the remedy. To meet such an objection, the hypothesis may be ventured that this salt would best shield the osseous system.

Salicylate of Quinia.—This salt has also been used with considerable success, particularly in those cases in which the effects of the bases already mentioned are not required, and in which a tonic, rather than a depressant, effect is desired; in fact, in those cases in which the two components of the drug are both indicated. In such cases, I have administered quinine and salicylic acid alternately; but the salicylate of quinia offers a more simple and elegant mode of prescribing, and has been well spoken of by Dr. Hewan in neuralgia and rheumatic pains.

Salicylate of Cinchonidia.—I now introduce this salt as a less costly substitute for that of quinia, and very useful as a tonic and antiperiodic in neuralgia, rheumatism, sciatica, etc. In such cases, five grains may be given every two hours, or ten grains may be given at once, and afterwards three or four doses of five grains at intervals of two or three hours. Cinchonidia ($C_{20}H_{24}N_2O$) is an isomer of cinchonia, but possesses left instead of right polarization, and is rather more soluble. The medical committee which investigited the subject for the Government of India estimated that cinchonidia is only slightly less efficacious than quinia in fever; many observers have considered it of equal value in neuralgia. It might, therefore, be expected that a combination of this alkaloid with salicylic acid would prove valuable in various nervous and rheumatic affections. The salicylate contains about a third of its weight of the acid, and is, of course, incompatible with iron It is rather insoluble, and therefore the bitter taste is not quickly perceived; it may be given as a powder in wafer-paper or in a pill, or it may be suspended in a liquid, though this is not an agreeable method of taking it. I give the solid drug in the form of Wyeth's compressed tablets, which can be swallowed quickly like pills. They are sufficiently insoluble not to be tasted in this way, but they readily disintegrate in the stomach, for I have known a couple of tablets produce, in a short time, singing in the ears, which could not be distinguished from the effect of quinine by a patient who had often taken that drug. A patient who suffered acutely with neuralgia of the fifth nerve, which had been arrested twice by gelsemium, took for the third attack two tablets, repeating the dose in an hour; this sufficed. I have given it in pleurodynia and in the pains of chronic rheumatism. I have not yet tried it in acute rheumatism; but so many cases in which salicylate of sodium is being employed would apparently do better if the effect of quinia in the system were substituted for that of soda, that we may hope the salicylate of cin-

chonidia may obtain a fair trial. Still, it is in more chronic cases of nervous and rheumatic pain, and perhaps in some of the consequences of malaria, that the chief use of this salt will probably be found. As a stimulant to appetite, and general tonic, it may also be given in moderate doses for a longer period, say two and a-half to five grains twice or three times a day.

Dr. Charteris remarks that recent reports of delirium following the use of sodium salicylate has thrown some discredit upon the use of the remedy. He traces this effect of the remedy rather to the way in which it is produced than to anything in it *per se*. He claims that salicin has no tendency of the kind attributed to salicylate of sodium, and comes to the following conclusion respecting it:

1. In uncomplicated rheumatism, salicin, in doses of twenty-five grains every three hours, dissolved in warm water or milk, will lower the temperature in two days.

2. When this has been accomplished, the frequency of the repetition of the dose should be diminished, to every six hours; then, after two days, it should be stopped altogether, as its further continuance is useless and depressing.

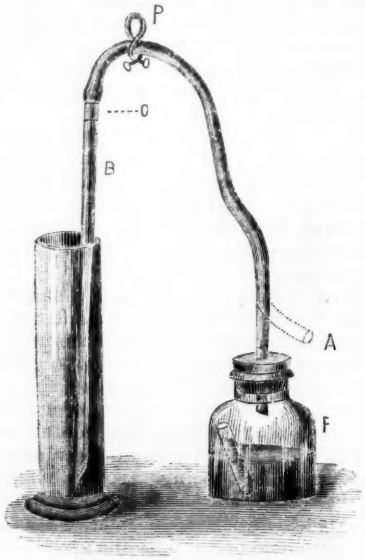
3. If the temperature be not lowered in the time mentioned, the heart is very likely affected, and if such be the case the remedy is of no avail against the fever.

4. Before the employment of salicin the urine should be tested for albumen; if this be present, the remedy should not be used.

5. He claims that delirium has never followed the use of salicin, the carbolic acid in the salicylic acid being probably the source of the delirium.

A New Ureometer.

Mr. Chas. Renson, Jr., of Louvain, has devised the apparatus here described. Into a long, straight glass cylinder *E*, a plain burette *B*, divided in 50 cc., and without stop-cock, is introduced, and its upper end connected with a rubber tube, provided with a pinch-cock *P*. This tube is intended to be attached to a glass tube *V*, projecting from the flask in which the reaction takes place. When using the apparatus, the cylinder *E* is nearly filled with water, and by gently releasing the pinch-cock, and by suction through the open end of the rubber tube, the water is caused to rise in the burette until it stands on a level with the o mark. The pinch-cock is then closed and the tube connected with the flask *F*, which has previously been charged with a solution of hypobromite and a rubber tube containing a measured solution (5 cc. or 10 cc.) of the urine to be tested. The hypobromite solution is made by dissolving 65 gm. of caustic soda in 1,000 gm. of water, and adding gradually 60 gm. of bromine. When everything is ready, the pinch-cock is first released, whereupon the column of water in the burette will slightly fall below the mark o. The author directs that this diminution, provided it remain constant, should not be taken into account, but that, after the reaction has ceased, the volume of gas should be read off, beginning from the o mark. The reaction is brought about by the upsetting of the rubber tube containing the urea-solution, whereby the urea is decomposed with the evolution of nitrogen. When reading off the number of cc. on the burette, the latter is to be lifted up until the water outside is on a level with that inside. The percentage of urea is calculated in the usual manner, but the author directs that 4.5%



Renson's Ureometer.

be deducted from the result, as a correction for products of decomposition which accompany the nitrogen.—*Journ. de Pharm. d'Anv.*, Dec., 1880.

Apparatus for the Distillation of Essential Oils.

Among the smaller distillatory apparatuses used in the manufacture of essential oils, one of the best is that of Drew, Heywood and Barron. It consists of a double-walled boiler, surmounted by a still-head, which is provided with a mechanism for keeping the contents of the boiler in motion (see Fig. 2). This stirring apparatus consists of a perpendicular shaft bearing a framework of iron curved so as to correspond to the interior shape of the still, and on the outside carrying a chain which scrapes over the inner surface of the still while the stirrer is being turned. This may be done either by hand or by steam. The still having been charged with the material from which essential oil is to be obtained, it is filled up with water to within a few inches of the top of the body of the still, and

the latter is heated by admitting steam through the pipe *S*. The vapors arising are conducted to a cooler situated at level higher than the still itself, and the condensed liquid is collected in a receiver, where the oil and water separate. This receiver is provided with two faucets, one near the top and the other at the bottom. If the oil passing over is heavier than water, the excess of the latter is removed by the upper faucet; if the oil swims on the water, the lower faucet is regulated so as to allow the water to escape in about the same ratio as it enters the receiver. In either case the condensed water is made to run back into the still, and the loss of oil is, therefore, greatly reduced.

On the Pharmacopœia Tests for Sulphate of Quinine.*

DR. G. KERNER has lately published an article in which he answers the objections raised by Dr. O. Hesse against his method of testing sulphate of quinine. Probably most of our readers are aware that Kerner's method† has already been incorporated in the German pharmacopœia of 1872, and has always been considered as thoroughly answering its purpose. The author goes over the whole ground again, and gives tables of results obtained by his method upon known mixtures of cinchona alkaloids, which show the correctness of his statements. We regret that we have only space here for an abstract of his paper. The author says:

Officinal tests must be so constructed that they may be performed with *uniform* reliability and precision by all druggists, pharmacists, and medical officers, and that no doubt or mistake can arise regarding the result.

The officinal test of sulphate of quinine, intended to show any accompanying cinchona alkaloids, must show a definite and clearly recognizable limit. It is altogether irrelevant, either for the practitioner or for the patient, whether the permitted contamination (1 per cent), in the officinal salt, consists of one or of more than one of the other cinchona alkaloids. It is only necessary that the test should clearly indicate the *quantity*. The valuation of the intrinsic value, and, at the same time, of the efficacy of sulphate of quinine, depends upon an entirely different circumstance, namely, the variable amount of water of crystallization, and mechanically contained moisture which varies often between many percentages. Dr. Kerner has therefore proposed to adopt as officinal either the definite salt, containing only 2 molecules of water, or else the generally available salt, containing at most 14.6 per cent of water (removable by drying at 115° C.).

Dr. Kerner then sums up his statements and results as follows:

1. In estimating the value of commercial sulphate of quinine, it should be required, as *first* condition, that it contain at least 74¼ per cent of pure anhydrous alkaloid (dried at 115° C.). This quantity may be determined either directly or better by the loss of weight of the commercial salt at 115° C., which should not exceed 14.6 per cent.

2. The test for other cinchona alkaloids is to be carried out as follows: Introduce 2 gm. of sulphate of quinine, finely powdered, into a small flask; add 20 gm. of lukewarm distilled water, close the flask with a stopper, and shake it briskly at intervals. After half an hour, set

FIG. 1.

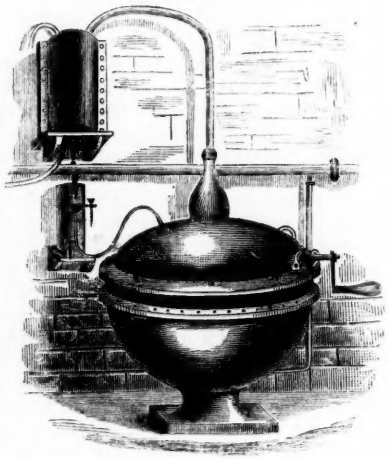
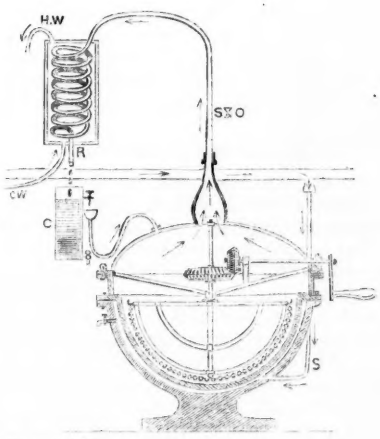


FIG. 2.



Heywood and Barron's Still for Essential Oils.

* Abstract of a paper by Dr. G. Kerner, in *Archiv d. Pharm.*, XIV., No. 6. Communicated by the author.

† Originally communicated in 1862. Compare also *Report on the Revision of the U. S. Ph.*, p. 29.

the flask in a basin containing cold water, and, when the contents are at a temperature of 15° C. (59° F.),* as indicated by an introduced thermometer, shake again repeatedly and filter through a dry filter. Of the filtrate pour exactly 5 cubic centimeters into a 10 cubic centimeter cylinder, divided into tenths; add 3 cubic centimeters of strong solution of ammonia (spec. gr. 0.920);† close the cylinder with the finger, and invert it once. The mixture will in most cases be yet somewhat opaque. Then add, one drop at a time, strong solution of ammonia, each time mixing the contents by once inverting, until the liquid is perfectly clear (that is, until the last trace of color or opacity has disappeared, which may be accomplished to a drop). To bring about this result, should require altogether *at most* 5 cubic centimeters of the solution of ammonia (spec. gr. 0.920).

Any sulphate of quinine which stands this test, in the proportions given above, cannot contain more than 1 per cent of sulphate of cinchonidine or other cinchona alkaloids.

To answer these two requirements is all that need practically be demanded from the officinal sulphate of quinine. Of course it is to be understood that the salt has previously been shown to be free from foreign substances and adulterations.

Olive Culture in California.

WHILE many of the other species of fruit-trees in California have suffered from disease and yielded small crops this year, it is interesting to note that the olive is as thrifty as could be desired, and seems to be as well adapted to the climate of the Pacific coast as do the native oaks. The best known varieties of olive-trees for oil are the *Le Caillet Olivier* or *Neustral*, which is largely cultivated in France, and the *Le Cayon*, which is the Hyères variety. These make the best quality of oil, though the *Verdale* is a large oil producer. In France eleven departments cultivate the oil, devoting a total area of 303,072 acres to that use. The total product of this land in oil amounts to nearly $12,000,000. This is exclusive of the picked olives. In Italy, Greece, Spain, and Portugal, large areas are devoted to the olive, probably in the aggregate greater than that of France, but statistics on the subject are not as full as could be desired. The fact, however, which appears most prominent, is that most of the olive product of European countries is required for home consumption, and that only the lower grades of pickles and the adulterated oils reach our markets. The olive groves of Europe are many of them century-old, and slowly wearing out.

At Grasse, in the *Alpes Maritimes*, the part of France where the olive does best, and where also the orange, lemon, and perfume plants thrive, one hectare of bearing olives (2½ acres) is valued at $1,750. If the trees are thirty years old it is valued at $2,500. The owner of the land has two-thirds of the produce. A hectare on hills contains two hundred trees, in the valleys only one hundred and twenty-five. It is there thought that digging, pruning, manuring, and gathering the crop will involve a total cost per hectare of $68, or $27.20 per acre. The yearly returns may vary from $150 to nearly $300 per hectare. A tree of ten years of age ought to give a gallon of olives; at thirty years, eleven gallons; and go on increasing until it yields thirty-eight gallons, and, in rare cases, even twice this amount. Good olives ought to give an eighth of their volume in oil—that is eight gallons of berries yield one gallon of oil. The yield varies, of course, with the variety; but this may be called a good average.

The olive grows faster here than in Europe, and bears earlier. At Niles, Alameda County, Cal., a six-year-old tree bore fully a gallon of fruit last year. At eight years, good returns may be expected. The price obtained is also greater here than in Europe, and this should easily offset the greater cost of labor. Our methods of cultivating the soil are much better. Besides this, the land used for olives in Europe is much of it exceeding rugged, and is like our steepest goat and sheep ranges. The foothills of our coast range and Sierra are in every respect more desirable, more easily worked, and will probably yield more per acre when the plantations have attained a sufficient age. It will thus be seen that we have every encouragement to plant this valuable tree. Australia has lately taken up the subject of olive culture, and the Government is taking an interest in promoting the work.

Notes from the Diary of a City Waiter.—Sunday: "We took a long walk after this, and being preshus thirsty, we wanted summat to drink, but no Public House was open, 'cause it was agin the law. We met a wery respectable Policeman and asked him what we should do, and he said, with a smile, 'You ought to belong to a Club, and then you can have anythink you likes, at any time—that's Club Law'; 'or,' says William, 'you ought to be a Bishop, and lunch with the Lord Mare.' Bobby was a very intelligent man, and told us that some of the Chemists in the neighborhood made up prescripshuns for thirsty soles that very few people would know from Brandy and Water, and all we had to do was to ring the bell and ask 'em to make up Dr. Walker's prescripshun for preventing of English Collery! As I don't want to get nobody into trouble, I says no more, except this, that where there's a will there's ginerally somebody over the way."—*Punch*.

Iodoform is recommended by French authorities in doses of one-third of a grain, in pillular form, four to five times daily, as a means for lessening the painful and spasmodic cough of phthisical patients.

* ½° C. above or below this temperature is of no practical influence; hence it is not necessary to be extremely exact in ascertaining the temperature, as long as the limit of + ½ or − ½° C. is not exceeded.

† The weaker solution of ammonia, spec. gr. 0.960, may also be used. In this case, 5 cc. of the latter are first added, and the total quantity consumed should not exceed 7 cc.

Apparatus for the Automatic Washing of Precipitates.

UPON a retort-stand is fastened the pear-shaped vessel *B*, having three tubulures, and lower down, the tray *M N*. The neck *a* of the glass vessel is connected, by means of a rubber tube, *O P*, with a small glass tube, *g h* (Fig. 2), dipping in a small cup containing mercury. This cup is attached to one end of a small balance beam, *p r*, the other end of which is counterbalanced by a weight (at *p*). At *e*, there is an axle bearing the bent lever, *d e f*. The disc *d e* contains a circular ring in the middle, which is hinged in such a manner that a funnel placed in it will retain a perpendicular position during the rising or falling of the disc. The other end of the lever, *f*, is provided with a cup, which is charged with a weight sufficient to counterbalance the other arm containing funnel, filter, and precipitate. The globe *B* having been filled with the wash fluid through the tubulure *c*, the latter is corked tightly and the faucet below opened. At the same time, the lever *p r* is set so that air will be able to enter through the lower orifice of the glass tube *g h*. As soon as the funnel fills with water—and the proper height may be regulated by the balance weight—the disc *d e* carrying the funnel sinks, and opposite arm, *e f*, rises. To the latter are attached two wires, one of which carries a stirrup passing below the lever *p r*, the other having a similar stirrup reaching the top of the lever. As the arm *e f* rises, the stirrup at *β* (of the wire *a*) raises the mercury cup until the end of the glass tube is closed by the mercury, when the flow of liquid from the globe *B* will cease. As the liquid runs from the funnel, the arm *e f* will gradually descend again, and thereby depress the mercury cup, whereupon the flow of water will recommence. The two stirrups may be set at pleasure, higher or lower, so that the flow of liquid or the time at which the refilling of the funnel takes place may be regulated.—M. ANDREEFF in *Ber. d. Deutsch. Chem. Ges.*, 1880, p. 2,386.

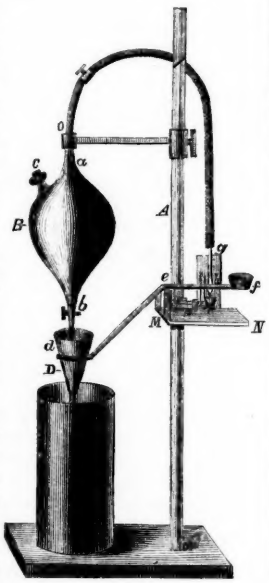


FIG. 1.

The Ohio State Pharmaceutical Association hold its annual meeting at Toledo, on May 18th and following days.

Cotton-seed Mill Statistics.

A NEW ORLEANS paper states, in the course of an article on the above subject, that "the average yield of a ton of seed is 35 gallons of crude oil, at 30 cents per gallon; 22 pounds of cotton, at 8 cents; and 750 pounds of cake at $20 a ton, making a total of $19.46. Less than 10 per cent of the seed is utilized, yet it brings to the South an annual income of between seven and eight millions of dollars. Of this, New Orleans alone furnishes one-third. As compared with linseed cakes it produces in cattle one-half as much fat and twice as much flesh, and twice as much value for the manure produced. During the year ending September 1st, 759,932 sacks of cake were shipped from New Orleans to Great Britain, or fifteen-sixteenths of the whole amount shipped from that port. As a fertilizer it stands well up to guano.

"The oil produced is graded 'choice,' 'prime,' 'Nos. 1 and 2' and the refined 'prime' and 'off.' The refuse of the refining is used for soap stock.

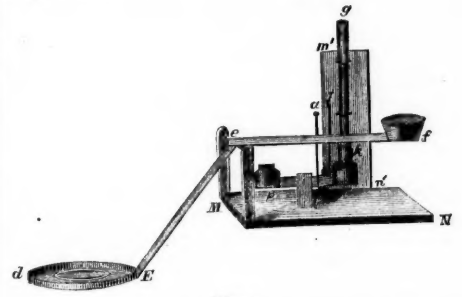
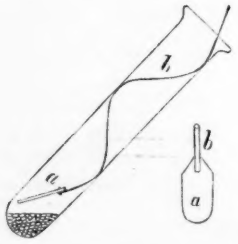


FIG. 2.

"The dividends paid by cotton-seed mills are very large. Here are a few samples of the last two seasons, 1878, '79: Bienville Oil Company, 10 per cent; Crescent Oil Company, 10 per cent; Louisiana, 10 per cent 1879–'80; Planter's, Bienville, and Louisiana Companies, 30 per cent; Crescent City, 20 per cent. Fires are the great drawback to this industry. Fourteen mills have been burned since the war. The region tributary to New Orleans raises each season nearly a million tons of seed. If but half of this be consumed by the oil mills, allowing the other half for seed, wastage, etc., this will leave enough to give employment to 8,000 hands, and to turn out $12,000,000 of products, to produce 25,000 bales of cotton now wholly lost, and 35,000,000 gallons of oil—enough to supply the whole world with fine vegetable table oil. The very refuse, 180,000 tons of cake, will supply the region tributary to this city with all the meat it wants, and the soap-stock left behind with an ample supply of soap. Such is the picture of what New Orleans might do, while for the whole South the product would be more than three times as great."

A Delicate Test for Mercury.

A VERY delicate reaction for mercury, which is analogous to that described on page 207 of our last volume, is given by Biewend. The substance to be examined for mercury is intimately mixed with twice its bulk of finely divided metallic copper (obtained by precipitating a solution of sulphate of copper with metallic iron), the mixture introduced into a small test-tube, of about 15 *mm.* diameter, and a brightly polished disc of gold *a*, fastened (see *b*) to a spirally bent watch-spring introduced, so that the disc is immediately over the mixture. The spiral twist of the spring causes the disc to be retained in its place. The test-tube is then heated cautiously in a slanting position, by applying the flame below until the bottom of the test-tube begins to be red-hot, at the same time taking care that the gold-disc does not become too hot. The amalgamated disc, after removal, is to be washed with alcohol, if the substance in which mercury was looked for was of a bituminous character. The mercurial mirror may be removed by heating the disc red-hot; but the



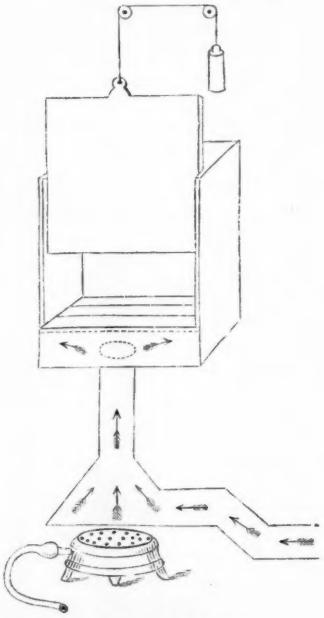
latter will have a dull appearance on cooling, wherever it had been amalgamated. To restore the former brightness, the disc is laid on a flat surface, moistened with a few drops of water, and then rubbed over a few times with a thick steel knitting-needle held horizontally. This smoothens down and depresses the irregularities of the surface, and the disc becomes perfectly bright.

The above test will reveal the presence of as small a quantity as 0.08 milligram.—*Dingler's Pol. Journ.*, 239, 301.

New Method of Extinguishing Mercury and Making Mercurial Ointment.

A WRITER in the *Archivio di Farmacia* (1881, p. 36) proposes the following process: Mix intimately 1 part of pure diastase with 500 parts of lard, at a temperature between 20° and 25° C. (68° to 77° F.); to the mixture add 500 parts of metallic mercury, and, on trituration, the latter will be extinguished in a few minutes. Another quantity of 500 parts of mercury is then added, and, when this is extinguished, the remainder of the lard or suet is incorporated, so as to produce 2,000 parts of product. The latter is thus obtained without trouble, and invariably of a perfect condition.

It remains to be shown why diastase (or "maltine," as the author calls it) has the property of instantaneously causing fatty bodies to "assimilate" with mercury. The high price of pure diastase might be thought to be an objection; but the small quantity required, together with the saving of time and trouble, will make the objection of small importance.

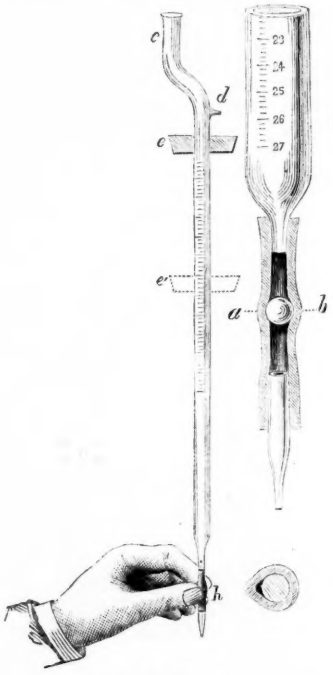


A Drying Cupboard.

A HANDY drying cupboard, primarily intended for photographers, but also useful for other purposes, is described by A. Cowan. The box (see cut), of sheet-iron, may be of any form most convenient, but the more shallow it is the better. A very good proportion is 30 inches high, 30 inches wide, and 10 inches deep from back to front. The front is closed up at the lower part about 6 inches, and a sliding door running in grooves closes the upper part, all but about half an inch at the top, a balance weight over a pulley supporting it in any position desired. This is much preferable to a door on hinges. The current of warm air enters at the bottom through a 3-inch circular opening, the iron stove-pipe arrangement being screwed on underneath. Above the opening, at a little distance, is supported a thin shelf of wood about 1 inch smaller all round than the inside of the box, which acts as a diffuser, and stops the current of hot air from rushing up to one spot. Above this, at any convenient height, two bars are fixed to carry the feet of the drying rack.—*The Brit. Journ. Photogr. Alm.*, 1881.

Pellet's Burette.

THE peculiar feature of this burette consists in a solid glass ball which serves the purposes of a faucet. Others have heretofore recommended the insertion, into the rubber joint at the bottom of the burette, of a short piece of solid glass rod of a slightly larger diameter than the calibre of the tube. A globe, however, is preferable, since it can be more easily retained in place, and, if desired, can be moved up or down with greater facility. It is only necessary to gently pinch the rubber tube at one side, to



Pellet's Burette.

cause a flow of liquid, in a fine stream or in drops, from the burette. This improvement has been proposed by Mr. Pellet, of Paris.—*Le Moniteur de la Photogr.*

Solubility of Pilocarpine Salts.

DR. THEODORE SCHUCHARDT, the well-known manufacturer of fine chemicals at Görlitz, has sent us the following information:

Hydrochlorate of pilocarpine exhibits a remarkable congruence of solubility in hot and in cold water. 100 parts of boiling water dissolve 66 parts of the salt, and water at 15° C. (59° F.) dissolves nearly the same amount. Of alcohol of spec. gr. 0.820 it requires 7 parts for solution at 15° C., the same alcohol, boiling, easily dissolves 2½ parts of the salt.

Nitrate of pilocarpine is soluble at 15° C. in 8 parts of water, at 100° C. it has the same solubility as the preceding salt. It requires 130 parts of alcohol, spec. gr. 0.820, at 15° C., and 40 parts of the same alcohol, boiling.

A New Method for the Examination of Coffee.

IT will be generally admitted that the methods in use for estimating the degree of adulteration in coffee are far from satisfactory as regards definiteness and certainty, and that something approaching nearer to chemical accuracy is very desirable. Little has been done in this direction since the days of the *Lancet* Sanitary Commission.

It may, possibly, not be generally known to analysts that chicory, dandelion, and probably some other substances that are used for mixing with coffee, are readily deprived of color by a weak solution of chloride of lime (hypochlorite), and that this agent has very little action on the coffee. When this method is adopted, a portion of the coffee should be gently boiled a short time in water with a little carbonate of soda, so as to remove extractive as much as possible; after subsidence, the liquor should be poured off and the residue washed with distilled water. When this has been sufficiently done, a weak solution of the hypochlorite of lime is to be added, and allowed to remain, with occasional stirring, until decoloration has taken place, which will probably be in two or three hours. The coffee will then form a dark stratum at the bottom of the glass, and the chicory a light and almost white stratum floating above it, and showing a clear and sharp line of separation.

The chicory, after this operation, is in the very best condition for microscopical examination, and it is not difficult to discriminate between chicory, dandelion, or other substances. Although the lower stratum may be dark, and have all the appearance of coffee, other substances may be present, and should be sought for. I have recently met with a substance that is entirely new to me, as a coffee substitute, that is not affected by this treatment.—F. M. RIMMINGTON, in *Pharm. Journal*, 1881, Jan. 1st.

In the succeeding number of the same journal, we find the following communication, on the same subject, by MR. ALBERT SMITH:

"Various methods are in use for estimating chicory in coffee, but in practice I have found the following method I proposed some time ago work very satisfactorily: First, carefully examine the coffee under the microscope; then take 10 grams of the coffee and boil it in 250 cc. of water; then strain, and add diacetate of lead until a precipitate ceases to be formed; well stir and put aside to settle; if the coffee be pure, the water above the precipitate will be perfectly clear, but if chicory is present, the water will be more or less colored, according to the quantity

present, which can be estimated by comparing the depth of color, the same as the Nessler test for ammonia.

"No doubt the foreign substance found by Mr. Rimmington was roasted figs. Damaged raisins are roasted and used with chicory to make the French coffee; these are easily detected under the microscope."

A Japanese Apparatus for Distillation.

MR. HENRY S. BRADY, at the last meeting of the British Pharmaceutical Conference, described a curious little earthenware distilling apparatus in use among the Japanese people in the country districts, where peppermint is largely used as a corrective for water rendered muddy and otherwise unsuitable for drinking by rains. It consists, as shown in the adjoining figures, of four

FIG. 1.

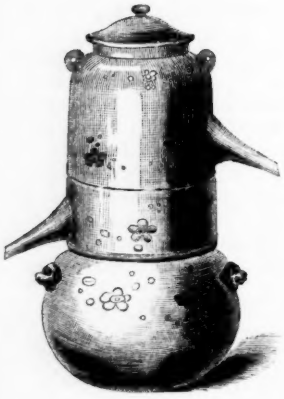
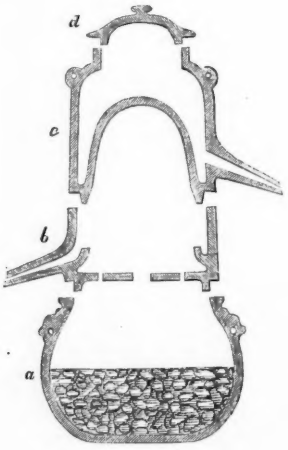


FIG. 2.



Japanese Still.

pieces: a boiler, *a*, into which fits a short cylinder, with a perforated bottom, *b*, and over this a condenser, *c*, with a cover, *d*. The cover being removed, a stream of cold water can be kept running into the condenser by means of a bamboo, and the overflow carried off by the spout at its base. Round the base of the inner side of the middle cylinder runs a ledge which forms a channel opening into an exit spout. The materials for distillation are put into the boiler, and the whole is placed on the ordinary *hibatchi*, or domestic fire-box. The vapor passes through the perforated bottom of the cylinder, collects in drops on the dome-shaped inner surface of the condenser, runs down into the channel before described, and is collected at its exit from the spout. This little contrivance is known by the Japanese under the name of *lambik* or *rambiki*, which is doubtless some corruption, through the Dutch, of the word alembic.

A Process for the indirect Volumetric Estimation of Glycerin.

JOHN MUTER writes in *The Analyst* (1881, 41): "I have been for some time engaged in an attempt to apply the power of glycerin in arresting the precipitation of cupric hydrate by potassium hydrate to its volumetric estimation. So far as I can discover, no process of the kind has ever yet been proposed for quantitative purposes, and an even fairly accurate method for rapidly estimating glycerin in commerical solutions of it, and in the lye from the saponification of fats, is not in existence. My experiments, although unfinished, give such good hope that the difficulties now met with may be overcome, that I think it advisable to mention the matter as it now stands. At present I can only give the process and its results, as tried on known solutions of pure glycerin, my research into the best methods of separating it from the bodies acting similarly on copper being still incomplete, but such will, I hope, soon follow, and then the whole will be perfect. Meantime, even a good approximate process to within 1 per cent is at least a desirable advance. A great difficulty in getting reliable results lies in obtaining for such experiments truly absolute glycerin, and although that which I used was supposed to be so, and agreed with the stated specific gravity, still I do not pretend as yet to lay down the actual power upon copper in figures, but content myself with doing a check analysis with so-called absolute glycerin each time I standardize my solutions. It will be seen from the subjoined figures, taken at random from a mass of analyses, and showing both the best and the worst results obtained by this method, that the process, even now, works tolerably well:—

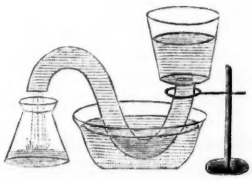
Glycerin Taken.	Glycerin Found.
1.000	.985
.905	.922
.900	.905
.500	.498
.505	.502
.504	.501
.250	.248
.251	.254
.252	.249

"The first and second results are the worst I ever had, and were obtained at the commencement of the work, while the others represent the later trials; after experience and employing pure cyanide, they begin to come out very close to the truth.

"The process is as follows: Take one gram of absolute glycerin, and wash it into a long stoppered graduated tube, having a stop-cock at 50 cc. from the bottom. This tube is the same as that used in my process for the rapid estimation of olein in fats;* now add 50 cc. of a strong solution of potassium hydrate (1 in 2), and then a weak solution of cupric sulphate very gradually and with constant shaking until a fair amount of cupric hydrate is produced which remains undissolved. Make the whole up to a given bulk, and then close the tube and set it aside to settle. When perfectly clear, run off from the top into a beaker a given volume of the deep-blue liquid, and add to it the slightest possible excess of nitric acid; then pour in a definite excess of ammonium hydrate, bring the beaker under the burette charged with volumetric solution of potassium cyanide, and run in till decolorized. The number of cc. of potassium cyanide used, after calculating to the whole bulk originally in the tube, represents one gram of glycerin. This result has, however, to be corrected by going through the blank experiment with the same amounts of everything, *but without glycerin*, and deducting the cc. of cyanide from that before found. This is necessary, because cupric hydrate is not quite insoluble in the strong alkali used, but once made and deducted, the difference gives the true value in glycerin of the cyanide solution, and that once standardized, any number of samples can be quickly analyzed. I now use absolutely pure potassium cyanide, made from hydrocyanic acid, which I obtain from Germany, together with the absolute glycerin, through the agents of the firm, Messrs. Burgoyne, of Coleman street, E. C. The source of the small error still apparent lies perhaps to some little extent in not making allowance for the space occupied by the precipitated cupric hydrate, but more especially in the inherent difficulty of working the cyanide estimation of copper to a perfectly constant point. I intend to try Bernsthen's method of titration with sodium hydrosulphite in an atmosphere of hydrogen, with indigo as an indicator, in the hope that it may prove better, but meantime the process can claim to be as accurate as the ordinary cyanide estimation of copper will permit. I am engaged in a re-analysis of butter and other solid fats, with the view of proving by the aid of the method, whether they are all really triglycerides or not, and hope soon to lay the results before the Society. In minute operations like these, I estimate the copper by electrolysis on platinum, which gives the required accuracy.

"I may also mention that I am now trying whether better results cannot be obtained by titrating the glycerin-copper solution with pure glucose, or by using excess of glucose, igniting the precipitate with hydrogen, and weighing as metallic copper."

*As described and figured in *The Analyst*, vol. ii., page 74, and can be obtained from Messrs. Orme & Co., Barbican, E. C., who sell them as "Muter's Olein Tubes."



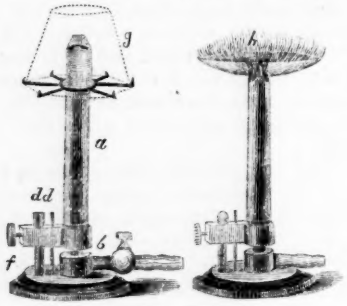
Filtering Apparatus for Viscid Liquids.

Mr. J. Vincent Elsden suggests an apparatus of the shape illustrated in the accompanying cut, for the purpose of filtering viscid liquids. He especially designed it for filtering photographic emulsions, but it is applicable also to other thick liquids. The flat basin contains hot water, to keep the liquid to be filtered more fluid. A wide glass-tube is bent in the shape of an S, and upon one of its extremities a cup-like expansion is blown, or it is correspondingly widened. A small piece of sponge having been placed into the neck of the cup, the liquid slowly percolates through it and gradually fills the bend, from which it finally flows into the receiving vessel.—*The Brit. Journ. Photogr. Alm.*, 1881.

Terquem's Gas-Burner.

Prof. Terquem, of Lille, has devised a new form of laboratory gas-burner, which differs from that introduced by Bunsen in several features. In the first place, the air is not admitted at the side, but from below, whereby a more intimate mixture of air and gas, and hence a more uniform flame and a higher temperature is obtained. The upper orifice of the burner is provided with two metallic strips crossing each other, producing four triangular openings for the escape of the gas and air. The gas enters through the nipple *b* and ascends through the tube *a*. The latter may be raised or lowered at will by means of the guides at *d* and the set-screw *f*. The character of the flame may be altered in various ways. If it is desired to avoid

the contact of the flame with the bottom of a flask, etc., it may be spread out by slipping over the tube an attachment ending in a disc of copper, producing a flame like that shown in Fig. 2. The temperature which may be obtained by means of this is so high that a copper wire

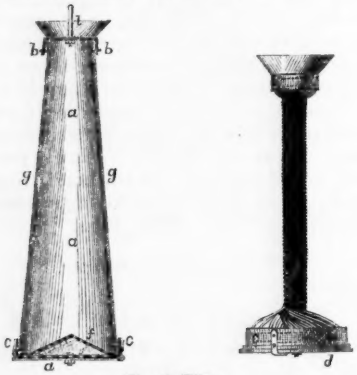


Terquem's Gas Burner.

of 1.5 *mm.* diameter may be melted in any part of it. These burners are manufactured, according to the inventor's designs, by Dr. Stohrer & Sohn, Leipzig.—*Chemiker-Zeit.*, No. 10.

Filter-Press Operated by Twisting.

A SLIGHTLY conical filtering tube, made of strong cloth, is attached by its lower end to a perforated cone *d*, forming the bottom, and by its upper end is fastened to a funnel, which is so constructed that none of the material which has passed down into the filter can leak back. The lower ring *c*, which helps to hold the filter, is



Gigot's Filter.

firmly secured, so that it cannot turn, and at the same time will cause the filter, when twisted, to retain a perpendicular position. When the interior of the filter is filled it has the shape of the figure shown on the left of the cut. The upper end is then caused to be twisted by means of suitable belting, when it will finally assume the shape shown on the right. As soon as all the liquid is pressed out, the dry material is discharged by untwisting the filter and releasing the bottom, which opens downwards on a hinge.

CORRESPONDENCE.

ACIDUM SULPHURICUM AROMATICUM.

EDITOR OF NEW REMEDIES:

For the benefit of the Revisors of the Pharmacopœia, I desire to direct your attention to a little practical but useful point in the preparation of Aromatic Sulphuric Acid, which I believe is original with me, as I do not remember having noticed it in any of my reading.

It is well known that by strictly following the pharmacopœia directions in preparing this acid, it results in a very elegant but unstable preparation, always depositing an abundant red precipitate, even after long standing and many filtrations.

My point is this, instead of mixing the sulphuric acid with a portion of the alcohol and preparing a tincture of ginger and cinnamon with the balance of the alcohol, and then mixing the two solutions (the tincture and diluted acid), I prepare a tincture of ginger and cinnamon with the entire amount of alcohol, and lastly, gradually add the acid to this tincture. The formula would read thus:

Take of

Ginger	1 ounce
Cinnamon	1½ "
Sulphuric acid	6 (troy).
Alcohol	sufficient.

Reduce the ginger and cinnamon to a powder of sufficient fineness, mix, pack in a percolator, and percolate two pints of tincture. Finally add the acid gradually to the tincture while constantly stirring.

The advantage of using this formula is that the precipitation is almost entirely prevented. I have noticed only a slight deposit after three months' standing.

The only difference from the present U. S. P. formula is in the manipulation. E. V. ZOELLER.

TARBORO, N. C.

HECTOGRAPH INK.

EDITOR OF NEW REMEDIES:

In your March number, somebody asked for a formula for black hectographic ink. Here is one:

Black aniline, quality 1*a*	5 parts.
Absolute alcohol	5 "
Mucilage of gum acacia	5 "
Distilled water	35 "

Warm in a Florence flask until entirely dissolved. Let it stand for 24 hours and then strain. AD. MUENCH.

NEW YORK, APRIL 7TH, 1881.

THE GROWTH OF DRUGS IN FLORIDA.

EDITOR OF NEW REMEDIES:

In your April number is an extract from the *Oil & Drug News* about "Florida Arrow Root." The facts are that the Maranta is extensively grown in Florida, and as fine an article of starch made from it as can be had in Bermuda; but owing to the lack of proper machinery it is not grown for market yet.

I also note that a Mr. Miles is growing the *Pycnanthemum cinerariæfolium* in California. Last year I obtained genuine seed in considerable quantity, and shall experiment this year upon a scale sufficient to test fully its growth in Florida. Up to this date it is doing well.

Many of our most valuable drugs could be grown in Florida if a market could be assured us. Such plants as elaterium, ginger, arrow-root, licorice, indigo, and colocynth are grown very readily here. I raised a crop of colocynth apples, but no one would handle them unless peeled. I could not manipulate the crop that way, and it was a loss. So if insect-powder, arrow-root, etc., are manufactured here, the chances are that they would have to be put on the market as imported, to sell.

T. C. NEAL, PH.C., M.D.

ARCHER, FLA., APRIL 5TH, 1881.

ON THE USE OF TANNATE OF PELLETIERINE AS A TÆNICIDE.

[The following communication is received in answer to a note asking for some practical points relative to the use of this new tænifuge.—Ed. N. R.]

In reply to your note, I would say: That the tannate of pelletierine or pelletierinum as prepared by Gehe & Co., of Dresden—the preparation I have used and prefer—I give in doses of one and one-third grams (about 22 grains). I commence to fast the patient at noon on the day before giving the drug. I give nothing but milk for diet until after the worm is secured. During the afternoon on which the fast is begun, I give a brisk saline cathartic so as to clear the intestines of their contents pretty thoroughly. On the following morning, the first thing, I give the drug mixed in a little water or mucilage, and after it has been down from an hour and a half to two hours, I administer a laxative, generally 1½ ounces of castor oil, to which, for adults, I add 3 i. of spts. terebinth. I prefer an oleaginous to any other laxative to expel the worm, for I believe it is more likely to expel the tænia entire. I also believe that a copious injection of water into the bowels, as the oil is about to operate, renders the general treatment more successful, as by this means the head is more readily detached from its hold. Give nothing for nourishment, *not even milk*, on the morning when you give the drug, until after the worm is secured. The noticeable effects of the drug are a sense of dizziness, numbness to a greater or less extent over the body, and sometimes nausea, and occasionally some griping intestinal pain, although the latter I have seldom noted. As the drug produces cerebral congestion, this fact readily accounts for dizziness, numbness, etc., all of which symptoms or effects soon pass away.

I should not deem it best or safe to give this drug to very young children, although I have given a boy ten years old a dose of 12 grains with prompt effect, and no unfavorable results.

I believe the preparations of Merck, and Tanret are somewhat different, and vary in dose from that of Gehe & Co.

Hoping that this hasty and somewhat disconnected note may answer your inquiry and purpose, I have the honor to subscribe myself, Yours respectfully,

E. S. Stebbins, M.D.

Springfield, Mass.

HOW TO KEEP LEECHES.

Editor of New Remedies:

Perhaps the readers of N. R. would like to know a way to keep leeches with the least trouble, and always have them healthy.

Take any wide-mouth bottle that will admit the hand, and fill it about two-thirds full of what is known as "Excelsior" (such as is sometimes used in upholstering and making cheap mattresses), wash the "Excelsior" with warm water and pour it off; then pour in cold, soft water enough to cover, and put in the leeches, tie a piece of thin cloth over the top, change the water once a month, and occasionally set the bottle and contents in the sun.

I have used this method for a numbers of years, and I do not remember ever finding a dead leech. It has certainly proved better than any jar, sponge, rusty nails, earth, or anything else I ever tried, and has the recommendation of being cheap and easily attended to.

Truly yours, James S. Talbot.

Dorchester, April 14th, 1881.

The Pennsylvania Pharmaceutical Association will hold its fourth annual meeting in Williamsport on the 14th and 15th of June. All persons desirous of placing articles on exhibition will please send them to the care of Edw. A. Cornell, Assistant Secretary, Williamsport, Pa.

J. A. Miller, *Secretary*.

RECENT PAPERS.

Coca Cultivation in South America. — (Cl. R. Markham.)* The coca-leaf is the great source of comfort and enjoyment to the Peruvian Indian; it is to him what betel is to the Hindu, kava to the South Sea Islander, and tobacco to the rest of mankind; but its use produces invigorating effects which are not possessed by the other stimulants. From the most ancient times, the Peruvians have used this beloved leaf, and they still look upon it with feelings of superstitious veneration. In the time of the Yncas it was sacrificed to the sun, the Huillac Umu or high-priest chewing the leaf during the ceremony; and, before the arrival of the Spaniards, it was used, as the cacao in Mexico, instead of money. After the conquest, although its virtues were extolled by the Ynca Garcilasso de la Vega,† and by the Jesuit Acosta,‡ some fanatics proposed to proscribe its use, and to root up the plants because they had been used in the ancient superstitions, and because its cultivation took away the Indians from other work. The second Council of Lima, consisting of bishops from all parts of South America, condemned the use of coca in 1569, because it was a "useless and pernicious leaf, and on account of the belief stated to be entertained by the Indians that the habit of chewing coca gave them strength, which is an illusion of the devil."§

In speaking of the strength the coca gives to those who chew it, Garcilasso de la Vega relates the following anecdote: "I remember a story which I heard in my native land of Peru, of a gentleman of rank and honor named Rodrigo Pantoja, who travelling from Cuzco to Rimac (Lima) met a poor Spaniard (for there are poor people there as well as here), who was going on foot with a little girl aged two years on his back. The man was known to Pantoja, and they thus conversed: 'Why do you go laden thus?' said the knight. The poor man answered that he was unable to hire an Indian to carry the child, and for that reason he carried it himself. While he spoke Pantoja looked in his mouth and saw that it was full of coca; and as the Spaniards abominate all that the Indians eat and drink, as though it savored of idolatry, particularly the chewing of coca, which seems to them a low and vile habit, he said: 'It may be as you say, but why do you eat coca like an Indian, a thing so hateful to Spaniards?' The man answered, 'In truth, my lord, I detest it as much as any one, but necessity obliges me to imitate the Indians and keep coca in my mouth, for I would have you to know that if I did not do so I could not carry this burden, while the coca gives me sufficient strength to endure the fatigue.' Pantoja was astonished to hear this, and told the story wherever he went, and from that time credit was given to the Indians for using coca from necessity and not from vicious gluttony."

The Spanish Government interfered with the cultivation from more worthy motives, and *mitas* of Indians for the purpose of collecting coca leaves were forbidden in 1569, owing to the reputed unhealthiness of the valleys.‖

Finally, Don Francisco Toledo, Viceroy of Peru, permitted the cultivation with voluntary labor, on condition that the Indians were well paid, and that care was taken of their health. This most prolific of Peruvian legislators issued no less than seventy *ordenanzas* on this subject alone between the years 1570 and 1574. Coca has always been one of the most valuable articles of commerce in Peru, and it is used by about 8,000,000 of the human race.

The coca plant (*Erythroxylon Coca*) ¶ is cultivated be-

* This interesting account is from the recent work of Clements R. Markham: *Peruvian Bark. A Popular Account of the Introduction of Cinchona Cultivation into British India.* With Maps and Illust. 8vo, London, 1880, pp 145 seq.

† G. de la Vega, *Com. Real.*, i. lib. viii cap. 15.

‡ *Acosta*, lib. iv. cap. 22, who cannot agree with those who believe its reputed virtues to be the effects of imagination.

§ *Cedula*, 18th Oct., 1569.

‖ *Solorzano, Polit. Ind.*, lib. ii. cap. 10, quoted by Unanue.

¶ J. de Jussieu was the first botanist who sent specimens of coca to Europe in 1750. On Coca, compare also New Rem., 1876, 147; 1877, 298. Dr. Weddell suggests that the word comes from the

tween 5,000 and 6,000 feet above the level of the sea, in the warm valleys of the eastern slopes of the Andes, where almost the only variation of climate is from wet to dry, where frost is unknown, and where it rains more or less every month in the year. It is a shrub from four to six feet high, with lichens, called *lacco* in Quichua, usually growing on the older trunks. The branches are straight and alternate, leaves alternate and entire, in form and size like tea-leaves; flowers solitary, with a small, yellowish white corolla in five petals, ten filaments the length of the corolla, anthers heart-shaped, and three pistils.

Sowing is commenced in December and January, when the rains begin, which continue until April. The seeds are spread on the surface of the soil in a small nursery or raising ground called *almaciga*, over which there is generally a thatch roof (*huasichi*). At the end of about a fortnight they come up; the young plants being continually watered, and protected from the sun by the huasichi. The following year they are transplanted to a soil specially prepared by thorough weeding and breaking up the clods very fine by hand, often in terraces only affording room for a single row of plants, up the sides of the mountains, which are kept up by small stone walls. The plants are generally placed in square holes called *aspi*, a foot deep, with stones on the sides to prevent the earth from falling in. Three or four are planted in each hole, and grow up together. In Caravaya and Bolivia, the soil in which the coca grows is composed of a blackish clay, resulting from the decomposition of the schists, which form the principal geological features of the mountains. On level ground the plants are placed in furrows called *uachos*, separated by little walls of earth (*umachos*), at the foot of each of which a row of plants is placed; but this is a modern innovation, the terrace cultivation being the most ancient. At the end of eighteen months the plants yield their first harvest, and continue to yield for upwards of forty years. The first harvest is called *quita calzon*, and the leaves are then picked very carefully, one by one, to avoid disturbing the roots of the young, tender plants. The following harvests are called *mitta* ("time" or "season"), and take place three times and even four times in the year. The most abundant harvest takes place in March, immediately after the rains; the worst at the end of June, called the *mitta de San Juan*. The third called *mitta de Santos* is in October or November. With plenty of watering, forty days suffice to cover the plants with leaves afresh. It is necessary to weed the ground very carefully, especially while the plants are young, and the harvest is gathered by women and children.

The green leaves called *matu* are deposited in a piece of cloth which each picker carries, and are then spread out in the drying-yard, called *matu-cancha*, and carefully dried in the sun. The dried leaf is called *coca*. The drying-yard is formed of slate flags called *pizarra;* and when the leaves are thoroughly dry, they are sown up in *cestos* or sacks made of banana-leaves, of twenty pounds each, strengthened by an exterior covering of *bayeta* or cloth.* They are also packed in *tambores* of fifty pounds each, pressed tightly down. Dr. Poeppig reckoned the profits of a coca farm to be forty-five per cent.

The harvest is greatest in a hot, moist situation; but the leaf generally considered the best flavored by consumers grows in drier parts, on the sides of hills. The greatest care is required in the drying; for too much sun causes the leaves to dry up and lose their flavor, while if packed up moist they become fetid. They are generally exposed to the sun in thin layers.

Acosta says that in his time the trade in coca at Potosi was worth 500,000 dollars annually, and that in 1583 the Indians consumed 100,000 *cestos* of coca, worth 2½ dollars each in Cuzco, and 4 dollars in Potosi. In 1591,† an excise of 5 per cent was imposed on coca; and in the years 1746 and 1750 this duty yielded 800 and 500 dollars respectively from Caravaya alone. Between 1785 and 1795, the coca traffic was calculated at 1,207,430 dollars in the Peruvian viceroyalty; and including that of Buenos Ayres, 2,641,487 dollars.

In the district of Sandia, in Caravaya, there are two kinds of coca, that of Ypara and that of Hatun-yunca, which has a larger leaf. The yield is 45,000 cestos a year. In the yungus of La Paz, in Bolivia, the yield is about 400,000 cestos. The coca trade is a government monopoly in Bolivia, the state reserving the right of purchasing from the grower, and re-selling to the consumer. This right is generally farmed out to the highest bidder. In 1850, the coca duty yielded 200,000 dollars to the Bolivian revenue.

The approximate annual produce of coca in Peru is about 15,000,000 lbs.,* the average yield being about 800 lbs. an acre. More than 10,000,000 lbs. are produced annually in Bolivia, according to Dr. Booth of La Paz, so that the annual yield of coca throughout South America, including Peru, Bolivia, Ecuador, and Pasto may be estimated at more than 30,000,000 lbs. At Tacnar, the *tambor* of 50 lbs. is worth 9 to 12 dollars, the fluctuations in price being caused by the perishable nature of the article, which cannot be kept in stock for any length of time. *The average duration of coca in a sound state, on the coast, is about five months*, after which time it is said to lose flavor, and is rejected by the Indians as worthless.†

The reliance on the extraordinary virtues of the coca-leaf amongst the Peruvian Indians is so strong that, in the Huanuco province, they believe that if a dying man can taste a leaf placed on his tongue, it is a sure sign of his future happiness.‡

No Indian is without his *chuspa* or coca-bag, made of llama cloth dyed red and blue in patterns, with woolen tassels hanging from it. He carries it over one shoulder, suspended at his side, and in taking coca he sits down, puts his chuspa before him, and places the leaves in his mouth one by one, chewing and turning them till he forms a ball. He then applies a small quantity of carbonate of potash, prepared by burning the stalk of the quinoa plant (*Chenopodium quinoa*), and mixing the ashes with lime and water, thus forming cakes called *llipta*, which are dried for use, and also kept in the *chuspa*.§ This operation is called *acullicar* in Bolivia and southern Peru, and *chacchar* in the north. They usually perform it three times in a day's work, and every Indian consumes two or three ounces of coca daily.

In the mines of the cold region of the Andes, the Indians derive great enjoyment from the use of coca; the running *chasqui* or messenger in his long journeys over the mountains and deserts, and the shepherd watching his flock on the lofty plains has no other nourishment than is afforded by his chuspa of coca and a little maize. The smell of the leaf is agreeable and aromatic, and when chewed it gives out a grateful fragrance, accompanied by a slight irritation, which excites the saliva. Its properties are to enable a greater amount of fatigue to be borne with less nourishment, and to prevent the occurrence of difficulty of respiration in ascending steep mountain sides. Tea made from the leaves has much the taste of green tea, and if taken at night is much more effectual in keeping people awake. Applied externally, coca moderates the rheumatic pains caused by cold, and cures headaches. When used to excess it is, like everything else, prejudicial to the health, yet, of all the narcotics used by man, coca is the least injurious and the most soothing and invigorating.

The active principle of the coca leaf was separated by Dr. Niemann, and called *cocaine*. Pure cocaine crystal-

Aymara *khoka*, a tree, *i. e.*, *the* tree *par excellence*, like *yerba*, *the* plant of Paraguay. The Ynca historian, Garcilasso, however, spells the word *cuca*.

* The cesto of coca sold at eight dollars in Sandia. In Huanuco it was five dollars the aroba of 25 pounds.

† Report of the Prince of Esquilache.

* Poeppig calculated the yield of Huanuco at 500,000 lbs.

† This statement and the presumably reliable experience of the natives should teach importers of coca and the pharmaceutical profession in general, to assure themselves of the comparative freshness of invoices of coca.—Ed. N. R.

‡ Poeppig, *Reise*, ii., p. 252; also Von Tschudi, p. 455.

§ In Caravaya, the *llipta* is made into a pointed lump and kept in a horn, or sometimes in a silver receptacle, in the *chuspa*. With it there is also a pointed instrument, with which the *llipta* is scratched, and the powder is applied to the pellet of coca-leaves. In some provinces they keep a small calabash full of lime in their *chuspas*, called *iscupurus*.

lyzes with difficulty, is but slightly soluble in water, but is easily dissolved in alcohol, and still more easily in ether.*

I chewed coca, not constantly, but very frequently, from the day of my departure from Sandia, and, besides the agreeable soothing feeling it produced, I found that I could endure long abstinence from food with less inconvenience than I should otherwise have felt, and it enabled me to ascend precipitous mountain sides with a feeling of lightness and elasticity, and without losing breath.

This latter quality ought to recommend its use to members of the Alpine Club, and to walking tourists in general, though the sea voyage probably causes the leaves to lose much of their virtue.

To the Peruvian Indian, however, who can procure it within a few weeks of its being picked, the coca is a solace which is easily procured, which affords great enjoyment, and which has a most beneficial effect.†

Iodoform has been recommended by Dr. Aphel for use in painful local affections. A woman having suffered a bruise of the right mamma, had swelling of the glands in the axilla, and the breast became painful. Twenty days' inunctions of mercury and belladonna, continued for ten days, gave no relief. The use of an ointment of iodoform gave relief instantly. A man had a bruised ankle, and an ointment of one part of iodoform in 30 parts of lard produced rapid amelioration.

Prof. Marius uses one part of iodoform in thirty parts of glycerole of starch, with enough essence of peppermint to cover the objectionable odor.

Nitrite of Amyl in the Typhoid State.—Dr. J. M. Keating reports a case of pneumonia, in which, in the absence of other stimulant, 3 drops of nitrite of amyl were given in emulsion every three hours, and all other medication stopped. The symptoms which called for its administration quickly improved, and this was attributed to the effects of the remedy.—*Med. Times.*

Viburnum Prunifolium as an Uterine Sedative.—Dr. Edward C. Mann, of Tarrytown, has had several violent cases of congestive and neuralgic forms of dysmenorrhœa, in one case accompanied with epileptiform convulsions. In each case he "has seen almost magical relief following the use of fluid extract of *Viburnum prunifolium*." Its use in such cases has, with him, taken the place of everything else. Coincident with the arrest of pain, the nervous excitement, quick pulse, and high temperature have declined.

Viburnum Prunifolium.—The alcoholic extract of the root of *Viburnum prunifolium* contains a coloring matter which is precipitated, on addition of lead acetate and a brownish resin of very bitter taste, which it is impossible to obtain free from sugar; it is, however, probably a glucoside. The coloring matter from which the lead is separated by means of sulphuretted hydrogen, gives with gelatin a brown precipitate of tannate, with ferric chloride a greenish black. It has an astringent, slightly bitter taste. The lead sulphide precipitate when boiled with alcohol gives a solution yielding precipitates with mercuric chloride, ferric chloride, soda, and potash, and with lead acetate.

The ethereal extract yields viburnin (obtained by Krämer from *Viburnum Opulus*) a yellowish-green mass with bitter taste, soluble in alcohol, sparingly soluble in water. The residue from the ethereal extract, when treated with water, yields oxalic, malic, and citric acids.

By extracting the bark with water, and distilling the extract with sulphuric acid, valeric acid is obtained.

The ash, which amounts to about 9 per cent, consists of the sulphates and chlorides of calcium, magnesium, potassium, and iron.—*Pharm. Journ.*

* *Bonplandia*, viii., p. 355-78.

† The information in this chapter is derived from personal observation; from the essay on coca by Dr. Don Hipolito Unanue, in Nos. 3 to 8 of the *Museo Erudito;* and from the works treating of coca by von Tschudi, *Travels in Peru*, p. 455; Dr. Poeppig, *Reise in Peru*, ii., p. 248; Dr. Weddell, *Voyage dans le Nord de Bolivie*, p. 516; the *Bonplandia:* and a memorandum by Dr. Booth, of La Paz. These are the best authorities on the subject.

Urticaria Following the Use of Salicylate of Sodium.—Dr. Heinlein reports in *L'Indépendente* a case, in which on three occasions, following a dose of four granules (3 ij.), a patient had, in a quarter-hour, burning pains in the forehead; five minutes later, acute burning sensation in the skin of the palm, slight œdema, and redness of the eyelids, the blush spreading over the ear, neck, and upper lip. Soon after, intense itching of the skin of the abdomen was followed by redness and an urticarial eruption, which extended to the lower extremities. The pruritus affected the entire surface. The eruption disappeared in one hour, and the redness in about three hours.—*Med. Times.*

Citric Acid as a Means for Rendering Water Potable.—Dr. Langfeldt has made a series of experiments, which show that one part of citric acid in 2,000 parts of water containing animalculæ will, in about a minute, cause the death of the animalculæ found in water from impure sources, after which they rapidly settle to the bottom of the vessel. The solution of citric acid should be fresh.

The Swedish Movement-Cure in Sprains.—Dr. Benjamin Lee, of Philadelphia, in the course of a paper in the *Medical Times*, on the results of the movement-cure, says, regarding its usefulness for sprains:

The average number of sittings in the cases of sprains was between five and six. This, I am aware, will scarcely seem credible to those who are accustomed to put a sprained ankle or wrist into splints, starch, or plaster, and see it drag along for weary months before it again becomes a useful member. With the immediate, persistent, and frequent use of this means, however, few sprains will disable the sufferer for more than three or four days, and many will be entirely relieved by a single sitting, if it follows the accident within an hour or two.

A New Reaction of Tartaric Acid.—Mr. H. J. H. Fenton, referring to a former communication of his, in a previous volume of the *Chemical News* (vol. xxxiii., p. 190), on a new reaction of tartaric acid, which he proposes as a test distinguishing it from citric and other acids, says:

The reaction is brought about by adding to a solution of tartaric acid, or alkaline tartrate, a small quantity of ferrous sulphate, or chloride, followed by one or two drops of hydrogen peroxide, and finally an excess of caustic potash, or soda. A beautiful violet color is thus obtained, which in very strong solutions appears almost black. At first sight it seemed probable that this color was due to the formation of an alkaline ferrate. This explanation, however, is not supported by later experiments. The color, for instance, is readily destroyed by chlorine, or hypochlorites, in an alkaline solution, which is not the case with ferrates. Moreover, if to the violet solution ferrocyanide of potassium be added, and the liquid be slightly acidulated with dilute sulphuric or hydrochloric acid, the iron may be removed by filtration, and a colorless filtrate obtained, which at once gives the violet color on the addition of a ferrous salt. Ferric salts produce the same effect, being probably first reduced to the ferrous state, for the solution has powerful reducing properties. Salts of silver and mercury, potassium permanganate, bichromate, etc., are at once reduced by it in the cold. Cupric salts in presence of an alkali are reduced to cuprous oxide in the cold, and to metallic copper on heating.

The solution may be evaporated to dryness *in vacuo* without losing its properties, which are evidently due to some product of the decomposition, or perhaps direct oxidation of tartaric acid. I hope soon to succeed in isolating this substance, but at present I am unable to obtain it free from admixed tartrates.

Instead of hydrogen peroxide in the above reaction, chlorine water, sodium hypochlorite, or acidulated potassium permanganate may be used, taking care to avoid excess; but the result is not so good as with the peroxide.—*Chem. News.*

How Raisins are made in California.—In Mr. Blowers' vineyard, Yolo County, the grapes are allowed to remain on the vine until of a golden color and translucent. They are then picked and put on wooden trays, two by three feet in size, placed between the rows, sloping to the sun. When half dried they are turned by putting a tray on top, and by inverting them both, are transferred to the new tray. When the new grapes lose their ashy appearance, and after removing the green ones, the rest are put into large sweat-boxes, placing sheets of paper between every twenty-five pounds of raisins. They are left there for two weeks, when the stems are tough and the raisins soft. The packing follows, in which iron or steel packing frames are used, the raisins being assorted, weighed, inspected, and made presentable. Mr. Blowers prefers a rich, moist, sandy loam, in a warm climate, for raisins, and believes that winter irrigation will destroy insects and keep the vines in a thrifty condition. He prefers to plant vines eight by ten feet apart, or even ten by ten feet, and uses fertilizers.

On the Substitution of Oleomargarine for Butter.—PROF. RICHE has read before the "Académie de Médecine" an official report of the Commission appointed by the Minister of the Interior, to give an opinion as to the propriety of substituting oleomargarine for butter in the asylums for the insane, from which the following conclusions are drawn:

1st. It appears from three years' experience at St. Anne, at Vaucluse, and at Ville Evrard, that the employés and some patients could not endure this alteration in the usual fare.

2d. The alimentation, and, therefore, the preservation in health of extra-sensitive and very delicate patients would be unfavorably affected. In any case it would be a serious change in the regime of those whose constitutions were already worn out.

3d. Oleomargarine is a manufactured product, and so open to fraud; it is well known that vegetable oils are used. Moreover, experience shows that some time is required for a stomach accustomed to food cooked in fat to become habituated to that dressed in oil, and physiological researches prove that vegetable oils are less easily digested than animal fat.

4th. Fatty substances are only absorbed into the system in the state of emulsion. Chemical practice and culinary experience having shown that oleomargarine does not emulsionize so readily as butter, and that the emulsion of the former is not as stable as that of the latter, it is reasonable to conclude that oleomargarine is not so easily assimilated as butter.

It was therefore proposed that the commission should reply to the Minister that the Academy considered the proposed substitution inexpedient, and this proposition being put to the vote, was unanimously approved.—*Moniteur de la Pharm.*

Black Walnut Leaves as a Remedy in Diphtheria.—DR. C. R. S. CURTIS, of Quincy, Ill., reports in the *Boston Med. and Surg. Jour.* the results of the local use of a decoction of leaves of *Juglans nigra* in diphtheria. The remedy was chiefly employed as a gargle or applied with a swab to the throat and fauces. A poultice of the leaves was also resorted to in some instances. Dr. Curtis adopted the practice in consequence of the recommendation of Prof. Nélaton (in his Eléments de Pathologie chirurgicale) of the *Juglans nigra* as a remedy in malignant pustule. The use of the gargle was unattended by discomfort, no patient objecting to it; and improvement in each instance was rapid, the œdema subsiding, the ash-colored spots disappearing.

Conversion of Starch into Glucose by Steam.—A heat of 140° to 150° [C.?] and consequent pressure of 3½ to 4½ atmospheres converts 71 per cent of starch into glucose. Dr. M. Stumpf considers that with the aid of one to two parts per thousand of acid, the change into glucose can be carried so far as to render the use of malt unnecessary.

The Volatility of Glycerin.—In the course of an extensive paper on the assay of glycerin in beer, DR. FRIEDRICH CLAUSNIZER gives a resumé of the literature of glycerin so far as it relates to its volatility, and adduces results of his own experiments. The observations recorded in the literature are as follows:

1. "Glycerin, if boiled with water, distils over in small quantities." CHEVREUL (Gmelin, Handb. org. Chem., 4th ed., 2, 175).

In distilling beer, for the purpose of determining its alcohol, Dr. Clausnizer found minute traces of glycerin in the distillate. Hence, in assaying glycerin, it is not advisable to use the residues left after distilling.

2. "Glycerin is sensibly volatile at 100° to 110° C. (212° to 230° F.)" *Heintz; Berthelot* (Gmelin, Handb. org. Chem., Suppl. 1, 687).

3. "Glycerin in slightly volatile, when heated on the water-bath." *Nessler* (Landwirthschaftl. Vers.-Stat., 1879, II., 284). According to this observer, 1 gm. of glycerin lost 0.733 gm. in 18 hours, at 100° C. (212° F.).

3. "Perfectly dry glycerin continues to lose weight in a vacuum; about 3 grams, thus exposed for 24 hours in summer, losing 12 to 14 milligrams." Pasteur (Die Alkoholgährung, etc.).

This statement is incorrect, according to Dr. Clausnizer, as he has proved by very careful experiments. He finds that glycerin, *at ordinary temperatures*, does not volatilize *in vacuo*.

Other experiments of Dr. C. have yielded the following results:

5 gm. of pure, dried glycerin, heated for 14 hours on the water-bath, lost regularly, during every 2 hours, 0.1 gm.

11 gm. of glycerin, similarly treated for 12 hours, suffered the same amount of loss during every 2 hours.

On heating glycerin in a *drying-closet* at 100° to 110° C. (212° to 230° F.), the loss was considerably smaller, 11 gm. losing, in an open capsule, only 0.04 gm. every 2 hours.

2 gm. of dry glycerin, heated in a small flask on the water-bath, while a *current of dry air* was passed through it, lost 0.02 to 0.04 gm. every 2 hours, in proportion to the strength of the current.

Several small flasks, of different length and width of neck, each containing 2 gm. of glycerin, were exposed to a hot-air bath of 100° to 110° C. The loss, during 36 hours, amounted to 1 to 2.2 milligrams for every 2 hours, it being much less in a long- and narrow-necked flask than in a short- and wide-necked one. In these experiments, a collection of small drops of glycerin in the upper curvature of the flask or in the neck could always be noticed.

Watery glycerin, heated in a small flask to 100° to 110° C., rapidly gives off its water, and afterwards suffers the constant loss of 1 to 1½ milligrams per hour.

Glycerin may, therefore, be perfectly dehydrated by heating in a small flask at 100° to 110° C. On exposing glycerin, thus dried, over sulphuric acid in vacuo, at ordinary temperature, no further loss will be observed.

If glycerin has been dissolved in a mixture of ether and alcohol—such as is used for separating glycerin—only traces of glycerin are lost on slowly evaporating off the ether-alcohol on the water-bath. And, after the volatile solvents have been driven off, the residuary glycerin may be dried, without more than the trace of a loss, in a drying-closet at 100° to 110° C.—From *Zeitsch. f. anal. Chem.*, 1881, 65.

Solution of Starch.—ZULKOWSKI proposes to make starch perfectly soluble in water by heating it to 190° C. with glycerin. This process is most successful with potato-starch, less so with wheat-starch, and very difficult with rice-starch.

Fluid Extracts of Digitalis and Colchicum are said by Dr. E. R. Squibb to be more eligible preparations than the corresponding tinctures. They are eight times as strong and cost only half as much.

Sulphate of Hyoscyamine as a Mydriatic.—DR. S. D. RISLEY, of Philadelphia, reports a series of eight cases, in which sulphate of hyoscyamine was employed as a mydriatic, in the proportion of gr. ij. to the fluid ounce of water, when the application was made by the doctor, and half that strength, in a few instances, when used by the patient. The results showed that the agent is a powerful mydriatic; that in the rapidity of its action over the iris and ciliary muscle, and in the duration of its control, it is more like duboisine than like atropine. The giddiness which, however, occurred in but one instance, was also more like the constitutional effect of duboisine; but it was not attended by the sense of weakness in the lower extremities, produced by that drug when used incautiously. There is little danger of annoyance from the constitutional impression, when used in solution no stronger than two grains to the fl. ʒ i.

Regarding the effectiveness of hyoscyamine in paralyzing the accommodation, further observations will be necessary.

Nitro-glycerin, in doses of one minim of a one-per-cent solution, given every half-hour, or doses of three minims, thrice daily, is recommended by DR. A. W. M. ROBSON (*Br. Med. Jour.*, 1880, vol. ii., p. 803) as a remedy in acute and chronic Bright's disease, and in the vascular tension of the aged. A man aged 56, with dropsical eyelids and legs, a tense and "corded" pulse, a hypertrophied heart, and labored and difficult breathing was effectually relieved of asthmatic symptoms. After taking the remedy in the last mentioned dose for a week, the urine, which had amounted to but a pint and a half daily, with a spec. grav. of 1.008, and very albuminous, increased in amount to three pints, with a spec. grav. of 1,012, and became almost free from albumen. The medicine was continued for several months.

Other cases were similarly treated, and Dr. Robson says that whether the vascular tension, which is the symptom treated, be due to chronic kidney-mischief, or to arterial fibrosis, this condition is unquestionably relieved by nitro-glycerin, and with the diminution of pressure, in his experience, improvement invariably follows, though, in some cases, it may be only temporary.—*Med. Times.*

Preservation of India-rubber Tubing under Water.—MR. MARECK relates his experience of having met with serious annual losses, in consequence of certain kinds of India-rubber tubing soon becoming brittle on exposure. After many experiments, he has adopted the plan of preserving them under water, which he renews from time to time. He found that even the thickest kind of tubing will thus remain soft and pliable without losing elasticity; nor has he found any other drawback by adopting this plan, except this, that they undergo a change in appearance. Red or brown tubing gradually fades, and becomes brownish or grayish-yellow; gray tubing becomes darker and browner externally. A section of tubing reveals the fact that about one-half of the thickness of the rubber, from the outside towards the middle, appears bleached and fatty; but the change is one which is rather of benefit for their practical use. The author adds that very thin rubber bands, with which other goods were tied, became so soft that they could be rubbed to small crumbs with the fingers.—*Dingler's Polyt. Journ.*, 239, 325.

Pitting of Small-Pox.—DR. SCHWIMMER, in the *Gaz. des Hôp.*, advises a mask to be formed of very pliable linen cloth, leaving apertures for the eyes, nose, and mouth. The inside of this is to be smeared with one of the following liniments: 1. Carbolic acid, 4 to 10; olive oil, 40, and prepared chalk 60 parts. 2. Carbolic acid, 5; olive oil and pure starch, of each 40 parts. 3. Thymol, 2; linseed oil, 40, and chalk, in powder, 60 parts. The mask should be renewed every twelve hours. Compresses, impregnated with one of these mixtures, may also be placed on the hands, and on any parts of the face with which the mask does not come into exact contact.

The Cascarilleros or Cinchona Collectors of Colombia.—The soft Colombian bark tree is met with most frequently in the fertile portions of the forest where the soil is mealy and dry. It grows too, but more sparingly, in stony situations with a thin covering of mould. The tree shoots up in general rather slender, but to a great height, rising often above the majority of forest trees, and is recognized by the collectors at a distance, on account of its elevated crown of compact branches clothed with glossy leaves of a deep-green color. All collectors agree in saying that many dead trees still standing are met with in the forest. But the land is in many places rather swampy. During the rainy season no doubt flat low-lying portions of forest land are sometimes inundated, or at least much soaked. Such circumstances would prove injurious to those valuable trees. But it is certain that, in favorable localities, they sometimes attain to a great size. The tree has peculiarities not possessed by any other quinine producing species. The epidermis or outer bark resembles in appearance that of a beech tree, and does not crack or become fissured, so that there is not the continual wasting process going on by the separation of dry, hard scales or flakes of bark from the outer surface, as is commonly the case with most trees. Another important fact is that the bark in drying loses less in weight than any other sort of bark. On account of its soft friable texture it is easily reduced to a powder.

The bark collectors are mostly Indians, and inhabit the banks of streams or rivers which flow from the foot of the eastern cordillera, and afterwards fall into the various tributaries of the Amazon. When going in search of bark they proceed to the summits of the neighboring hills, where, on finding one or more trees, they erect a thatched roof of palm leaves, twelve or fourteen feet in height, underneath which is made a platform (*barbacoa*) of wicker-work. Over this the bark is spread to a depth of five or six inches, and is turned and moved about frequently. From four to six moderate fires are lighted on the ground underneath, and kept constantly burning until the bark is dry, which is usually in the space of three or four days. When the quantity of bark collected during the excursion is small, the collector takes it home and dries it on the loft immediately above the fireplace used for cooking. If at any time unsuccessful in finding bark he is not much disconcerted, as the streams and rivers near his abode abound with fish, which, with mandioc or plantain, suffice for his daily wants.

A collector on going in search of bark is generally accompanied by his wife or one or two of his sons. They are usually absent eight or ten days, and on returning bring with them about six *arrobas* of dry bark. This they can sell at San Sebastian at the rate £1 5*s.* per *arroba* of 25 lbs. On their return to the forest they frequently take with them a quantity of coca, salt, and a few other articles for disposal or barter, so that this is another source by which good profits are made from the journey. Of course, it is only Indians, born in and accustomed to those regions, who can accommodate themselves to the hardships of wild forest life.—CLEMENTS R. MARKHAM in *Peruvian Bark*, 8vo, London, 1880, p. 248.

Siamese Benzoin.—MR. E. LORGEON, Consular Agent of France, at Bangkok, reports that Siamese benzoin has become very scarce. The reason of this is not known. The Siamese drug has always been most esteemed, and the best qualities of this have fetched, in 1879, as high a price as 200 piasters (1,000 francs) per picul (133⅓ lbs.). The total quantity exported (497 piculs) was shipped to Singapore, and thence mostly to London.

Siamese Pepper.—The same diplomatic officer reports that the exportation of pepper, both black and white, from the province of Chantaboun, has risen to 20,000 piculs, of the value of 186,627 piasters (933,135 francs), which figure has rarely before been attained.

Canalopathy—the latest of the pathies—the name adopted by an advertising doctor in Indiana, who professes to make a speciality of diseases of the alimentary tract.

Drugs by Contract.—An Irish workhouse dispensary doctor gives specimens in the *Medical Press* of the prices at which medicines are contracted to be supplied to his union. The second column of prices represents the ordinary wholesale prices of the same drugs. What the patients get may be imagined.—*Chem. and Drugg.*

	Contract Price.	Market Value.
	s. d.	*s. d.*
Acid. sulph. aromat.....	1.6	3.6
Spts. ætheris (Hoffmann).	0.10	4.0
Spts. ætheris nit.....	1.0	3.2
Spts. ammon. aromat.....	1.0	3.0
Tinct. cinch. co..... ...	1.10	3.4
Pil. colocynth. co..... .	3.0	13.0
Ferri et quiniæ citrat.....10.0		40.0
Tinct. lobeliæ ætherea...	1.10	6.6
Tinct. opii	2.6	4.6
Tinct. guaiaci ammon....	1.9	3.6

Chinese Wax.—According to an article in the *British Mail* on the White Wax Industry of China, the annual produce of this peculiar substance is said to amount to about the value of £650,000. The exports from Hankow alone amounted, in 1879, to the value of £81,000.

This kind of wax is of vegetable origin. It is found on the branches of *Ligustrum lucidum*, a handsome evergreen tree, with ovate-pointed leaves, profuse white flowers in panicled cymes, and bearing a black capsular fruit. [The Chinese name is *tung-ts'ing* or *lah-shu*.—ED. N. R.] This tree occurs in large quantities in the district of Kunchang [?], and in spring the leaves are covered with countless swarms of flies, looking like a brown skin or bark. Soon afterwards the branches become covered with a white, saponaceous-looking coat, which is caused to exude by punctures made by the flies, and which increases in quantity up to the autumn, at which time the branches are cut off and dipped in boiling water. The waxy coating then peels off and rises to the surface, where it melts. After cooling it is removed.

Wood-Sorrel as a Caustic.—DR. EDWARD ETTINGE speaks of the use of *Oxalis acetosella* as an escharotic, of which he had an experience in his own person on the removal of an epithelioma of a lip. The plant familiarly known as wood-sorrel is indigenous to the United States and Europe, and is abundantly found in shady, waste places, groves and hedges, neglected or uncultivated grounds and unfrequented highways, and mountainous woody regions. Many other species having similar or like properties may be included under the same general head, containing the same remedial agent—the oxalate or potassium—to which it is believed to owe its acidity. It possesses marked caustic or escharotic properties, heretofore either unnoticed, untried, or unadmitted by the general profession, although it has formed the essential ingredient of the paste used by some empirics.

Following an unsuccessful trial of Canquoin's paste of chloride of zinc, which was followed by hemorrhage, the inspissated juice of the fresh plant, made into a paste, was applied, and, owing to too early withdrawal of the remedy, but three successive applications, made at intervals of twelve hours each, were sufficient to entirely destroy the growth; the resulting eschar separated on the eighth day, leaving a healthy granulating surface, which rapidly healed. Not a drop of blood issued throughout, the contrast in this respect with the effect of the zinc paste being marked. The granular tumefactions rapidly subsided, and, at the end of two years, he still remains free from any signs of recurrence.

The pain produced by the application of the caustic was intense, demanding considerable fortitude to enable him to endure it. The duration, however, did not exceed half an hour after each application—a period during which it would be quite practicable to maintain general anæsthesia in patients requiring it.—*Ann. of Anat. and Surg.*

Diuretics.—DR. MAUREL, in the *Bull. de Thér.*, has published the following results, depending upon clinical experience, with diuretics:

1. Nitrate of potassium is uncertain in regard to the quantity of urine, but increases the quantity of solids considerably.

2. Chlorate of potassium is less active than the nitrate in regard to solids, but increases the quantity of fluid.

3. Acetate of potassium is unreliable, both in regard to solids and fluids.

4. Iodide of potassium, far from being diuretic, seems to diminish the urinary secretion.

5. Salicylate of sodium, uncertain in regard to the quantity of water, increases the solids.

6. Of the vegetables experimented upon, digitalis, colchicum, and squills, the first, alone, seems to be a diuretic. It seems to increase both fluid and solids.

7. Tincture of colchicum is nearly without action upon the urine.

8. The same can be said of squills, except that sometimes it seems to have some effect upon the urine.

The author seems to have very little faith in diuretics, certainly not a surprising fact, especially when his experiments are taken into consideration.—*Lancet and Clinic.*

Hyoscyamine.—DR. HENRY M. HURD, in the biennial report of the Eastern Michigan Asylum for the Insane, says, respecting the results following the use of the amorphous hyoscyamine of Merck, that its administration is, with few exceptions, followed by marked and constant symptoms. Although it produces mental excitement and acts as an intoxicant in a small proportion of cases, it usually is a hypnotic, and produces more or less prolonged sleep. These effects usually disappear in six to twenty-four hours, but a certain degree of mental and physical prostration may remain for several days. Hyoscyamine acts more vigorously upon the cerebral centres and muscular apparatus than hyoscyamus, and rarely irritates the stomach or bowels. Its effect upon the motor functions frequently causes a staggering gait, and sometimes inability to stand. It first causes increased arterial tension, followed by diminished blood-pressure, and, if a large dose has been used, irregular contractions of the ventricles. The first few doses seem to modify morbid mental activity in a greater degree than subsequent ones, and a tolerance of the remedy is soon acquired in some cases. No cumulative effects were noticed, nor did it act as a diuretic. Acute mania is often wonderfully benefited by it (*vide* NEW REM. for 1880, p. 279). It has been found useful in arresting attacks of recurrent mania, although it does not affect the periodicity of these attacks. Its effects in chronic mania are transient, but in a few cases permanent improvement followed its prolonged use. Two exceptions occurred, in which its use by patients of the latter class were made worse. More than half the cases of melancholia, of a religious type, and who, while having no fear of poisoning, fear to take food, were benefited by it. A case of acute melancholia, in which food was refused and there was intense apprehensiveness and delusions of poisoning, extreme restlessness and untidiness was not relieved by it, but improved under codeine, quinine, and enemas of blood. Paretic cases do not bear its continued administration, as it causes rise of temperature, loss of appetite and weight, and prostration, but a combination of hyoscyamine and chloral hydrate will often control the furious attacks of excitement which occur. It acts as a tonic and improves the appetite and nutrition in proportion to its effect of quieting cerebral irritability, but when this latter effect does not follow its use, no beneficial effect upon the general health attends its use. One-twelfth to a tenth of a grain will sometimes suffice as an initial dose.

[Dr. Leared (see NEW REM., 1880, p 211) has found the fortieth of a grain suffice, when administered hypodermically, to cause delirium. Sulphate of hyoscyamine, owing to its greater solubility and activity, is to be preferred to the amorphous alkaloid for hypodermic use.—ED. N. R.]

On the Preservation, in a Dry Condition, of Hygroscopic Substances.—Mr. R. Kirsten, of Hamburg, has sent a communication to the *Pharmaceutische Zeitung*, in which he relates his experience with the use of lime as an agent to keep hygroscopic substances from attracting moisture. He says: "The use of lime for this purpose is not new, but it is not nearly as much employed as it deserves. I used it for about ten years with such success that I have constructed, during that time, five larger and smaller drying-boxes. Some of these serve for temporary driers, others for the permanent keeping of hygroscopic substances. In accordance with this object, some of them are placed in the dispensing department, others in the store-room, or in the garret. The largest has a height of about 28 inches, and is 40 inches square; the others are about 24 inches long, 20 inches high, and 20 inches wide. They are made of heavy wood, covered with a tight lid, and are lined with sheet zinc. Upon the bottom of each box, according to its size, are placed 15 to 100 kilos of burnt lime, and upon a false bottm, laid over this, the substances to be preserved, which are best kept in high narrow vessels, labelled on the cover [of course, they must be labelled so that no mistake can be made by a misplacement of a cover]. All these vessels may be closed either with cork or glass stoppers, since it is a matter of common experience that there is hardly any kind of stopper which could alone be trusted to hermetically close a vessel.

One filling is enough for nearly a year, since the lime, even after crumbling to pieces, still retains its absorbent power for a long time. It is evident that such drying-boxes are much cheaper than those which constantly require heat, not reckoning the additional advantage that they can be carried about and placed anywhere. And, as regards efficiency, they are far ahead of heated driers. Not only may substances which contain volatile ingredients be perfectly dried and kept so without loss, but even the drying itself is carried much further, and is much more perfect than in the others.

The author states that dry extracts may be preserved in these boxes in a pulverulent form for years, notwithstanding that they are frequently taken out for the purposes of dispensing. Effervescing powders may be kept ready mixed, and put in paper packages without ever becoming damp. If squill, saffron, cardamom, opium, vanilla, etc., are for some time kept in these boxes, they become so brittle that they may be readily powdered. All recently purchased drugs, which should be kept in a dry condition, may for some time be deposited in these boxes, to deprive them of all moisture. In the case of odoriferous substances, it is advisable to inclose them in tin-boxes, to prevent their odor from being communicated to the other contents."—*Pharm. Zeit.*, 1881, 13.

Citrate of Caffeine, in the experience of Dr. Hurd in the Eastern Michigan Lunatic Asylum, has proven serviceable in melancholia with vasomotor disturbances, anæmic headaches, emotional distress, and active delusions of apprehension and distrust. It increases appetite and arterial tension, and promotes digestion. It needs to be used for a considerable time before its beneficial effects become apparent. It has been particularly serviceable in relieving the persistent headache which accompanies nervous asthænia, and in one case of aortic insufficiency with anasarca it acted as a diuretic.—*Mich. Med. News.*

Danger from Chemical Utensils Made of Toughened Glass.—A serious accident has recently befallen an apothecary of Nuremberg (Mr. Weigle), who was preparing ozone, and used for this purpose a retort made of toughened glass. The latter suddenly exploded, with a tremendous detonation, into minute fragments, cutting an artery and several tendons in Mr. Weigle's hand, and also injuring his apprentice. It seems about time to banish toughened glass utensils from chemical or pharmaceutical laboratories.—*Pharm. Zeit.*, No. 15.

Preservation of Solution of Iodide of Iron.—Mr. P. Carles, in the *Bulletin de la Société de Pharmacie de Bordeaux*, passes in review the several methods which have been proposed for the preservation of solution of iodide of iron. Exposure to the direct rays of the sun has been recommended on the ground that the solar rays cause the sesqui-iodide to return to the state of protiodide, while the free iodide is transformed into hydriodic acid. The theory is discussible, and the practice requires that the sun should be at our disposition. Results have been stated to be inconstant.

Boudet recommends the addition of sugar and gum to the solution. This limits the use of the solution to the preparation of the syrup.

Parisel puts into a bottle the exact proportions of ferrous sulphate, potassium iodide, and water, the bottle being quite full. Agitate and preserve for use. In this process, the double decomposition is never quite complete, and it cannot be recommended.

Horncastle and Jeannel add tartaric acid and honey to the solution, that is, they add an essentially fermentable syrup to the solution, and this soon communicates that property to the syrups or other solutions with which it is mixed.

Tschirner and Mayer add hyposulphite of sodium, but this salt is only certain if added in sufficiently fair quantity, and it then causes eructations of sulphurous acid.

Judge prefers hypophosphorous acid, but this is a product rare in shops, and as it often contains baryta, and may itself have a marked therapeutic action, it cannot be adopted with confidence.

Deschamps and Hurant-Moutillard advise that the solution be more concentrated, and that iron filings be added to absorb the iodine. The addition of iron-filings is not sufficient, however, as decomposition will take place at the surface. The addition of an iron wire through the liquid will counteract this, but the wire must be absolutely clean, and the bottle must not be frequently opened.

Mr. Carles considered that what was wanted was a body of the same nature as the ferrous salt—insoluble, and with greater attraction for oxygen than the iodide itself, for without free oxygen there can be no decomposition of the iodide.

This body he has found in *hydrated sulphide of iron.* The addition of a few centigrams of this salt to a solution of iodide of iron will preserve it indefinitely. Mr. Carles has some samples made in March, 1878, as colorless and perfect as on the day they were made. Further, the addition of some of the same sulphide to a discolored solution will, after agitation, restore the liquor and remove the discoloration.

The sulphide is completely insoluble, and in reducing the yellow ferrous solutions, an equally insoluble oxyiodide of iron is formed. Consequently, no foreign substance can be added to the solution. The sulphide is prepared by precipitating a solution of iron by sulphide of ammonium. Wash the precipitate by decantation several times in boiling water, collect on a filter, and preserve in a well-stopped bottle in a moist condition.

Mr. Carles prepares the solution thus:

Iron-filings, fine and unoxidized	8 gm.
Distilled water	95 "
Iodine	.27 "

Add the iodine gradually, and when the solution has become colorless, filter to remove the excess of iron and carbon, which the metal always contains. Then introduce about two grams of the paste of sulphide of iron.

The syrup is liable to decomposition, on account of the alkaline salts sometimes contained in the sugar, or in the water with which it is made. These may be counteracted, and the taste of the syrup, if anything, improved by the addition of one gram of citric acid in 1,300 grams of syrup.—*Chem. and Drug.*

Preventing the Irritating Effects of Atropia.—DR. W. W. SEELY refers to the known fact that atropia not infrequently causes so much irritation of the conjunctiva as to prevent its being used as a mydriatic. In 1867, he suggested the use of some astringent, usually zinc (sulphate?). He now proposes the use of yellow oxide of mercury for a similar purpose.—*Lancet and Clinic.*

Cocculus Indicus has been used by DR. HENRY M. HURD in a number of cases of confirmed epilepsy, in doses of one-fourth of a drop and upwards of the fluid extract made by Stearns, of Detroit. The dose was increased week by week, never exceeding, however, three-fourths of a drop thrice daily. It almost invariably reduced the number and severity of the convulsive attacks, and, unlike the bromides, its continued use rather improved than diminished intellectual activity. In one case it apparently prevented attacks of epileptic mania. It appears to serve best those cases which are otherwise in good health, and whose convulsive attacks were attended with mania.—*Mich. Med. News*, Feb. 10th.]

Oil of Ergot.—According to DR. JOHN V. SHOEMAKER, oil of ergot, made by percolating ergot with benzin and allowing the latter to evaporate, has, when made from the recent drug, a reddish-brown color, and exists in the drug in the proportion of about thirty-five per cent. It is a moderately thick, non-drying, fixed oil, and contains resin, cholesterin, and lactic acid.*

It has a slight odor of herring-pickle, an acrid taste, and is soluble in both alcohol and alkaline solutions.

As a local remedy this refuse oil is cheaper than other oils and fats, and its ingredients other than its fixed oil make it an important therapeutic agent.†

Dr. S. recommends it as a local application in acute eczema, cracked nipples, herpes of the genitals, seborrhœa, erysipelas; in rosacea, after puncturing the enlarged vessels and allowing them to bleed freely; in catarrh of mucous membrane of the nose and cervix uteri; in gleet; as an injection in leucorrhœa and gonorrhœa, and as a substitute for the ordinary hair oils.—*Mich. Med. News*, from *Trans. Penn. State Med. Soc.*

The Atomic Weight of Platinum.—DR. CARL SEUBERT, to whom we already owe a critical revision and correction of the atomic weight of iridium (192,644), has been engaged for more than eighteen months with the critical revision and determination of the atomic weight of platinum, which has been assumed to be either 196.7, according to Berzelius' determination (1826), or 197.4, according to Andrews (1852). But, since it appeared from other considerations that these figures were probably too high, the author reinvestigated the question with great care, observing all needful precautions, and he deduces from these experiments the atomic weight of platinum as 194.46124. This determination is of importance, because the exact quantity of metallic platinum in certain double platinum compounds is often used for an indirect determination of the molecular constitution, or, rather, molecular weight of certain organic substances.—From *Annalen d. Chem.*, 207, 1–50.

Asbestos-Felt as a Substitute for the Sand-Bath.—C. WEIGELT recommends to use asbestos-felt, of suitable thickness, in place of the ordinary sand-bath. He states that the temperature may be thus much better regulated and kept uniform, and the edge of a capsule placed on the felt will never get as hot as is usually the case in iron dishes, in consequence of the heat radiated from the metal.—*Pharm. Zeit.*, No. 12.

Rapid and Easy Reduction of Silver from the Chloride.—P. SOLTHIEN gives the following: The argentiferous metals are dissolved in the smallest possible quantity of concentrated nitric acid—or, if the silver is to be recovered from broken and damaged nitrate, the latter is merely dissolved—the solution somewhat diluted with water and then completely precipitated with hydrochloric acid (free from arsenic), in the dark and under brisk agitation, so as to cause the chloride of silver to separate in lumps. When the precipitate has settled, the clear liquid is decanted, and strong water of ammonia is immediately poured on. If the chloride does not dissolve at once, this may be hastened by gently heating. The solution is then rapidly filtered, in the dark, into a tall cylinder, and to the filtrate are added the washings of the filter, after which a bright strip of copper, long enough to project over the surface of the liquid, is introduced, and the cylinder corked. Occasionally the contents are agitated. The silver is rapidly reduced (particularly if the solution was concentrated), and is completed as soon as the blue copper solution is perfectly clear and the strip of copper completely free from adhering particles of silver and perfectly bright. If zinc is used, instead of copper, the reduction is slower, and some of the reduced silver adheres strongly to it, causing it to have a black color. It only remains to pour off the liquid from the precipitated chemically pure silver, and to wash the latter thoroughly with distilled water. Finally it is dissolved in pure nitric acid and converted into fused or crystallized nitrate. Any gold present in the original metal or alloy is left behind in the first solution, and other metals are left as hydrated oxides during the solution of the chloride of silver in ammonia. Any copper or zinc present has passed into the ammoniacal solution. If arsenic was present in the original solution, the chloride of silver would have to be thoroughly washed before dissolving it.—*Arch. d. Pharm.* and *Pharm. Centralh.*, No. 6.

Paraffin-Stopper for Bottles.—MR. R. KIRSTEN, of Hamburg, recommends to use paraffin, in place of corks or other stoppers, for the hermetic sealing of bottles containing liquids which are prone to ferment or otherwise deteriorate by coming in contact with air. Syrups, or saccharine fruit juices, for instance, are filled, while hot, in perfectly dry bottles, nearly up to the lip. They are allowed to stand at rest until cold, during which time all air-bubbles will rise to the surface; then they are again filled up, and a small quantity of hot paraffin is immediately poured on top. When cold, the paraffin will form a firm, solid coat, about 2 to 3 *mm.* thick, adhering to the glass and at the same time covering the liquid completely, so that all air is excluded. When the contents are required for use, the paraffin-stopper is removed without trouble, and transferred to a special vessel, the contents of which are, from time to time, remelted, so as to recover the paraffin.—*Pharm. Zeit.*, 1881, No. 13.

Resorcin as an Antiseptic, etc.—DR. DUJARDIN-BEAUMETZ reports that, in ulcerations of all kinds, resorcin may be used as a topical application. He has dressed with it chancres and mucous patches, and obtained satisfactory results. In diphtheria it may replace carbolic acid, of which it has not the unpleasant smell. It may be useful in local affections of the stomach. Resorcin is poisonous in doses exceeding 6 or 7 grams, the toxic effect then produced being similar to those of carbolic acid.

Dr. Beaumetz thinks this substance may give good results in surgery as an antiseptic; but in medicine, where 2 grams may be given without danger, its efficacy has not yet been demonstrated. In fevers and acute rheumatism, it is no better than salicylate of sodium, and its only advantage over carbolic acid is its slight odor and taste.

[* Wiggers, who investigated the composition of ergot, in 1830, says the oil exists in the drug to the extent of about thirty per cent, and consists of olein, palmitin, and small proportions of volatile fatty acids, especially acetic and butyric, combined with glycerin. When extracted with carbon disulphide, the oil contains small quantities of resin and cholesterin, and though the oil itself appears to be innocuous, the presence in it of the resin causes it to display irritating properties when taken in doses of six grams.

Other chemists have proved the presence of lactic, acetic, and formic acids.—ED.

†Different writers have referred to the existence of trimethylamine in an alcoholic extract of ergot, which has been treated with alkalies. The odor of herring-brine is characteristic of this substance, and to the presence of the latter in the oil used by Dr. S. its activity may be somewhat due.—ED.]

BIBLIOGRAPHY.

How we Feed the Baby to Make her Healthy and Happy, with Health Hints. By C. E. Page, M.D. New York: Fowler & Wells, pp. 144, 8vo. Paper, 50 cents; cloth, 75 cents.

Throughout the book the point upon which the greatest stress is laid is the general tendency to overfeed babies and to consider that mere *fatness* is an indication of robust health. The advice and information conveyed appear to be sound and well expressed.

The Metric System in Medicine: Containing an Account of the Metric System of Weights and Measures, Americanized and Simplified, a Comprehensive Dose Table, and Three Hundred Practical Illustrations of Metric Prescription Writing, Selected from Recipes in Actual Use in Hospital and Out-Door Practice. By Oscar Oldberg, Phar.D., Medical Purveyor, U. S. Marine Hospital Service, etc. Philadelphia: Presley Blakiston, 1881, pp. 182, sm. 8vo, $1.50.

The writer of this work has been one of the most earnest advocates for the adoption of the metric system, not only in medicine, but in other affairs where quantities require to be expressed. The present work contains numerous and practical tables of equivalents of units of weight, measure, and temperature, and incidentally showing the advantage of the metric system as a means for estimating prices.

The nomenclature of the formulas is that proposed by Prof. Oldberg, at the last meeting of the American Pharmaceutical Association, and no illustration could be given more perfect than this of the practical working of his system. Certain "Americanized" forms have been adopted for the expression of the metric quantities, such as Gram instead of Gramme, Fluigram in place of Cubic Centimetre, Meter instead of Metre, and Dime, Cent and Mill, in place of Decigramme, Centigramme, and Milligramme, etc.

In spite of the discussion which has already taken place, and will doubtless occur in future, about the propriety of thus altering the phraseology of the French system, this carefully-made and comprehensive little work cannot fail to exert a favorable influence toward the adoption of the essential features of the system itself. The posological table is very complete, and will greatly aid those who desire either to learn the average metric doses of the remedies which they use, so as to be able to prescribe them without the mental operation of converting Troy into metric weights, or to have a convenient table for reference as a means for insuring the accuracy of such a mental calculation.

Supplement to Kilner's Modern Pharmacy.

Part II. of the supplement received, brings the number of formulas up to 281; and contains formulas for 14 malt preparations, and 8 medicated pads.

Report on the Culture of the Sugar Beet and the Manufacture of Sugar therefrom in the United States. Prepared under the direction of the Commissioner of Agriculture, by Wm. McMurtrie, E.M., Ph.D. Washington, 1880, pp. 294, 8vo, Pub. doc.

Van Schaack, Stevenson & Co.'s Price-Current and Illustrated Catalogue for 1881.

This last edition of the handsome and comprehensive catalogue of the well-known Chicago house, is even handsomer and more comprehensive than its predecessors, and appears to contain everything in creation that can, by the efforts of a vivid imagination, be made to lie within the province of the retail pharmacist.

On the Use of the Cold Pack followed by Massage in the Treatment of Anæmia. By Mary Putnam Jacobi, M.D., and Victoria A. White, M.D. New York: G. P. Putnam's Sons, 1880, pp. 76, 8vo.

The book contains an account of elaborate investigations of the effects of cold-packing and massage upon the excretion of urea, in healthy and invalid females, and an analysis of the therapeutic results. In the latter is embraced a very thorough review of the present state of knowledge respecting the physiology of nutrition, which will, perhaps, be found to be the most valuable element of the work.

Constipation Plainly Treated and Relieved without the Use of Drugs. By Joseph F. Edwards, M.D. Philadelphia: Presley Blakiston, 1881, pp. 72, 12mo. 75c.

The information contained in this work is plainly conveyed; is quite free from error, and the instruction as to how to regulate the function of defecation will make it very serviceable for the majority of non-professional people for whom it is intended. This is another of the publications of this house that might very well be kept in stock by the pharmacist, although attention to its instructions might considerably diminish his profits from the sale of cathartic pills.

Rocky Mountain Health Resorts: An Analytical Study of High Altitudes in Relation to the Arrest of Chronic Pulmonary Disease. By Charles Denison, A.M., M.D. Second Edition. Boston: Houghton, Mifflin & Co., 1881, pp. 192, 8vo.

This work contains a large amount of detailed information upon a subject which has of late received considerable attention, but about which reliable information has been difficult to obtain. Those who contemplate a sojourn in the highlands of the West or who may have occasion to advise others to do so, should first acquaint themselves with the contents of this volume.

Weight and Measure Equivalents. By M. B. Mainwaring. $1.00.

A handy tablet for the use of all who have to make calculations in weights, measures, and prices.

The Chemistry of Medicines. Practical. A Text and Reference Book for the Use of Students, Physicians, and Pharmacists, embodying the Principles of Chemical Philosophy and their application to those Chemicals that are used in Medicine and in Pharmacy, including all those that are officinal in the Pharm. of the U. S. With 50 original cuts. By J. U. Lloyd, Professor of Chemistry and Pharmacy in the Eclectic Medical College, Cincinnati, Ohio, etc. 8vo, Cincinnati, 1881.

We learn from our friend, Prof. Lloyd, that the first edition of this work is nearly exhausted, and that a new edition is in preparation. Under these circumstances we shall postpone reviewing the work, and shall only state that, in our opinion, Prof. Lloyd has chosen a very practical way for teaching the elements of chemistry.

NEW BOOKS.

Beilstein (Dr. F.). Handbuch der organischen Chemie. 8vo. Leipzig. In about 12 numbers, each at $1.10.

Riche (A.). Cours de Chimie. Classe de philosophie. 12mo. Paris. 3 *fr.*

Post (Prof. Dr. Jul.). Chemisch-technische Analyse. Handbuch der analytischen Untersuchungen zur Beaufsichtigung des chemischen Grossbetriebes. Vol. 1, 8vo. $4.40.

Falck (Prof. F. A.). Lehrbuch der praktischen Toxikologie für praktische Aerzte und Studirende. Mit Berücks. der gerichtsärztlichen Seite des Faches bearbeitet. 8vo, pp. 347. Stuttgart. $3.00.

Cruewell (G. A.). Liberian Coffee in Ceylon. The History of the Introduction and Progress of the Cultivation. 8vo. Colombo, 1878. 12*s.*

White (H.). Handbook of Cinchona Planting for Ceylon Planters. 8vo, pp. 16. Colombo, 1877. 1*s.* 6*d.*

Lanessan (J. L. de). Manuel d'Histoire naturelle médicale. II.: Etude des Plantes phanérogames médicinales. Avec 519 fig., 18mo. Paris. Price of I. and II., 20 fr.

NOTES, QUERIES AND ANSWERS.

Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us, as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue. Unless special instructions to the contrary accompany the query, the initials of the correspondent will be quoted at the head of each answer.

When asking for the formula of an unusual, patented, or proprietary compound, always accompany the query with any information you may already possess regarding the locality in which it is used, its use and reputed effects, in order to enable us to make inquiry without waste of time and labor. When it can conveniently be done, send also a specimen of the label used on packages of the compound.

No. 878.—**Hager's Catarrh Pills** (U. S.).

On page 243 of our last volume we gave an account of these pills, and also of the experience of Dr. Hermann Hager, who found them to be a prompt remedy in bronchial and pulmonary catarrh, caused by sudden change in the weather during spring and fall. These pills have, since then, been used to a considerable extent both in Europe and here. Fault has been found with Dr. Hager's formula, because the ingredients, as given by him, form a very tough pill-mass, difficult to roll. It is now recommended to leave out the tragacanth and to replace it by powdered marshmallow or licorice root. And since the glycerin is not added as a therapeutic agent, it is suggested to add it drop by drop so as to form a pliable mass. The formula would then be:

℞ Quinidia sulphate.....	5.0 gm.	= 75	grains.
Cinchonidia sulphate	5.0 "	75	"
Althæa root, powd.....	10.0 "	150	"
Gentian root, powd.....	3.0 "	45	"
Red Saunders, powd.....	1.0 "	15	"
Hydrochloric acid.....	7.5 "	115	"
Glycerin.....	q. s. "	q. s.	"

In No. 102 of the *Pharmaceutische Zeitung*, we find a communication from Dr. Hager, in which he states that he has not encountered any difficulty in making these pills according to the formula originally published by him. If they are exposed to the air for one day, at 18–20° C. (64–68° F.), they will have become dry enough to be preserved in glass vessels. However, the quantity of glycerin and acid may be somewhat diminished, and the formula would then be as follows:

Quinidia sulphate.....	5.0 gm.	= 75	grains.
Cinchonidia sulphate.....	5.0 "	75	"
Tragacanth, powd	6.0 "	90	"
Althæa root, powd	2.0 "	30	"
Gentian root, powd.....	6.0 "	90	"
Glycerin.....	6.0 "	90	"
Hydrochloric acid.....	6.0 "	90	"
Distilled water.....	3.0 "	45	"

Make into 200 pills, to be dusted with powdered cinnamon. If they are made in larger quantities, it is best to let them be exposed to the air for 24 hours, before putting them in bottles.

No. 879.—**Catarrh-Cure** (A. W. K.)

The formula of the particular "cure" you inquire about has never been published, and we have never had any information as to its composition, except this that the basis of similar "cures" is simply *common salt*. In chronic coryza or nasal catarrh, the local application of a warm solution of common salt, by snuffing it up the nostrils, is one of the promptest remedies known to us.

No. 880.—**Spiritus Chloroformi** (A. G. S.)

In the last edition of the U. S. Pharmacopœia, an error crept into the formula for making this preparation, —dilute alcohol having been directed, by mistake, in place of alcohol. When the mistake had been pointed out, it was corrected in the plates, and recent copies give the formula correctly thus: Take of Purified Chloroform *a troyounce*, Alcohol, 12 *fluidounces*.

The error in the National Dispensatory, 2d ed., p. 1,344, is one of oversight; the passage should read (line 6 from bottom): Dissolve the chloroform in the alcohol.

No. 881.—**Proprietary Remedies** (Several Inquirers).

We are unacquainted with the composition of Dr. B. W. Hays' Asthma Cure, Parr's Life Pills, Laubach's Pills, S. A. Weaver's Salt Rheum Remedy, and King's Specific.

No. 882.—**Lozenges** (G. L. H.)

How to make Lozenges has been described in detail, in our January number, page 29. A formula for lozenges, such as you ask for, will be found on page 158.

No. 883.—**Quinetum** (Subscriber).

This is the name applied to a mixture of total alkaloids extracted from East Indian Red Bark. We quote the following, from *Markham's Peruvian Bark* (8vo, Lond., 1880, p. 430), which gives you all the information desired:

The general nature of the process is to exhaust the dry bark by successive treatment with dilute hydrochloric acid, and to precipitate the resulting liquor with an excess of caustic soda. The pecipitated alkaloids are collected in filters, washed, dried and powdered. This product is then dissolved in a quantity of acid just sufficient to take up the alkaloids, filtered from some insoluble coloring matter, and the solution again precipitated. After washing, drying, and grinding, a fine white powder is obtained, which, however, acquires a slight buff tint by keeping. It never agglutinates in any way, even in the trying climate of India. It is freely soluble in weak acids, and is readily taken up by lemon juice, which constitutes a pleasant vehicle for its administration.

The manufacturing operations in the Sikkim factory were commenced in 1875. The method recommended itself for its economy. No fuel is wanted, except what may be required to dry the alkaloid obtained; no expensive machinery is involved, the only plant needed is some wooden tubs and calico filters; the ingredients are acid and caustic soda, and no skilled labor is necessary.

Up to the end of 1876 the yield of dry bark of *C. succirubra* had been 321,236 lbs. The yield for 1876 alone was 211,931 lbs. For 1878 it was 344,225 lbs. The crop is taken partly by coppicing and partly by uprooting. The plantations are now capable of yielding 366,000 lbs. of dry bark annually, containing an average of 4 per cent of total alkaloids. The cost of growing one pound of bark, including interest on capital, is 5*d*.

The manufacture amounted to 48 lbs. of the febrifuge in 1875, to 1,940 lbs. in 1876, to 3,750 lbs. in 1877, to 5,612 lbs. in 1878, and to 7,007 lbs. in 1879. The cost of production is Rs. 3 (or $1.40) per lb.

It is calculated that, by the rough process at present adopted, about 10,000 lbs. of cinchona febrifuge or quinetum can be annually issued.

The name *Quinetum* has been proposed by Dr. De Vrij. The termination *etum* denotes a collection. Thus: *arboretum* a collection of trees, *pinetum*,—of pines. *Quinetum* is, therefore, a collection of quinia alkaloids.

During 1879, 128,000 ounces of the product were disposed of. This, at 1 rupee an ounce, cost £12,800. The same quantity of quinine at 12*s*. an ounce (its present price), would have cost £76,800; a clear saving of £64,000.

The Sikkim *quinetum* has been submitted to a careful trial by the physicians attached to the Calcutta hospitals, and has also been tried in the Burdwan fever with great success. The conclusion of the Surgeon-General of the Indian Medical Department on May 16th, 1877, was that in the *quinetum* "we possess a remedy perfectly suitable in the treatment of an enormously large percentage of the ordinary intermittent fever met within the autumnal season throughout the Presidency." Conse-

quently, he directed that only one-quarter of the usual indent for quinine should be drawn, and that the remaining three-fourths should be made up with the Sikkim cinchona febrifuge. He strongly recommended that a similar rule should be adopted for the indents of all Government dispensaries. This recommendation was subsequently adopted. Out of 1,819 cases, 1,752 or 96 per cent were cured, in an average time of under three days, with average doses of 3 to 5 grains at a time, amounting in all to 46 grains for each case.

A complaint was made that the quinetum had the effect of producing nausea, but it was found, by experiments conducted at the Hague by Dr. van Tienhoven, at the request of Dr. de Vrij, that, if administered in doses not exceeding 10 grains (which includes two grains of an amorphous alkaloid producing the nausea), it has no unpleasant effect. It is easy to remove the nauseating principle from the quinetum, but this amorphous alkaloid is itself a perfect febrifuge, it is thoroughly innocuous if not administered in too large doses, and therefore Dr. de Vrij was of opinion that it is not desirable to increase the expense of production by eliminating it.

Dr. Vinkhuizen, the physician to his Majesty the King of the Netherlands, has administered quinetum, and could observe no difference between its action and that of quinine, and Mr. Whiffen now manufactures the *quinetum* extensively for use in England.

No. 884.—**Emulsion of Cod-Liver Oil with Hypophosphite of Calcium, etc.** (A. L. B.).

In answer to your query we give the following four formulæ, which we have taken from a *Thesis on Emulsions*, presented to the College of Pharmacy of the City of New York, by MR. ELLISON W. HURD, Ph.G.

1. Yolk of egg ..... ʒ 4
   Glycerin ..... fl. ʒ 4
   Cod-liver oil ..... fl. 4
   Distilled water ..... fl. 2
   Syrup ..... fl. 4
   Stronger alcohol ..... fl. ʒ 4
   Oil of bitter almonds ..... gtt. 4
   Hypophosphite of calcium ..... grains 40
   " " sodium ..... " 40

Beat up the yolk of egg and add the glycerin so as to form a uniform mixture. Then slowly add the cod-liver oil, stirring briskly so that each portion may become emulsified before more is added. Next incorporate the water in which the hypophosphites have been dissolved, and the syrup; and lastly, add the alcohol to which the essential oil has been added.

This emulsion has a rich creamy appearance, and may be mixed with milk, wine, etc., if necessary.

2. Tragacanth, powd. ..... ʒ 1
   Glycerin ..... fl. ʒ 4
   Cod-liver oil ..... fl. ʒ 4
   Distilled water ..... fl. ʒ 2½

Syrup, stronger alcohol, oil of bitter almonds, calcium and sodium hypophosphites same as in Formula 1.

Place the powdered tragacanth in a dry mortar, pour on one fluid ounce of boiling water, and triturate the mass until it assumes a uniform consistence. Then slowly add the oil, stirring constantly until the whole forms a jelly-like mass. The remainder of the ingredients are then added, as in 1, without difficulty.

If the oil be added suddenly to the mucilage of tragacanth, the mixture will assume a granular appearance, and no amount of stirring will form it into an emulsion. The only thing which can be done is to allow the tragacanth to settle to the bottom, decant the oil for future use, and throw away the rest.

This emulsion, when properly made, has a chalk-white appearance.

3. Acacia, powd. ..... ʒ 1
   Glycerin ..... ʒ 4
   Cod-liver oil ..... fl. ʒ 4
   Stronger alcohol ..... fl. ʒ 1

Distilled water, syrup, oil of bitter almonds, calcium and sodium hypophosphites as in Formula 1.

Mix the powdered acacia with the oil. Then pour on 2 fl. oz. of water in which the hypophosphites have been dissolved, and stir until the emulsion is formed. Then add the other ingredients.

4. Irish moss jelly *..... ounce 2
   Cod-liver oil ..... fl. 4
   Alcohol ..... fl. 1

Glycerin, syrup, oil of bitter almonds, calcium and sodium hypophosphites, as in Formula 1.

Mix the Irish moss jelly thoroughly with the cod-liver oil to emulsify the latter. Then add the glycerin, syrup, essential oil, and alcohol. Finally incorporate the hypophosphites in fine powder.

From another *Thesis* (N. Y. Coll. of Pharm.), by MR. A. J. H. VAN DE BERGH, Ph.G., we quote the following formula:

   Cod-liver oil ..... fl. 2
   Acacia, powd. 1
   Water ..... fl. 1
   Syrup ..... fl. 1
   Calcium hypophosphite ..... grains 40
   Oil of cinnamon ..... gtt. 5
   " bitter almonds ..... gtt. 2

Dissolve the hypophosphite in the water, and shake the solution vigorously with the oil, previously weighed in a bottle. When thus well mixed, pour the mixture into a mortar containing about 1 drachm of the powdered gum, gradually adding the rest until the whole is triturated to a homogeneous mass with the oil and water. Pour the mixture in a bottle, take up the remainder still adhering to the mortar by means of the syrup, add the latter, together with the essential oils to the bottle, and shake the mixture thoroughly.

If well made, this emulsion keeps for months homogeneous, and may be diluted with water to a considerable extent.

THE CORRESPONDENT signing himself A. B. is respectfully referred to the notice published at the head of this department of the journal.

Gelsemium as a Remedy for Epilepsy.—DRS. A. W. WISEMAN and W. S. CRUMP report cases of epilepsy treated with gelsemium. One was in a woman, in whom the epilepsy followed cerebro-spinal meningitis, and the convulsions were not controlled by chloral, morphia, or bromide of potassium. Three drops of fluid extract of gelsemium were given every two hours, and the dose was gradually increased to nine drops. Improvement occurred in two days, and after one week the fits ceased. Several months elapsed without their recurrence.

In a case of hystero-epilepsy, without menstrual disturbance, with intense clavus-hystericus and hemi-anæsthesia, the gelsemium was pushed until fifty-eight drops were taken every two hours, for several days, with the effect of stopping the paroxysms. A few mild attacks occurred afterwards, but were controlled by the medicine, and having gradually subsided, there was no return for several months.—*Va. Med. Monthly.*

The Melting Point of Petroleum Ointments.—MR. SAMUEL A. D. SHEPPARD, of whose paper on Vaseline and Petroleum Products we gave an abstract in our last number (p. 104), desires us to correct the figures there given as melting points of the commercial brands. The correct figures are as follows:

   Vaseline melts at about ..... 95° F.
   Cosmoline melts at about ..... 100° F.
   Petrolina melts at about ..... 110° F.
   Deodoroline melts at about ..... 120° F.

Query.—What is the difference between a quack and a chemist? One is a Charlotte-Ann and the other an Ann-Eliza.

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* This is best prepared by boiling 1 part of well washed Irish moss with 60 parts of water down to 40 and straining. When mixing the jelly with oil, it should be slightly warm.—ED. N. R.

NOVELTIES.

"Pond's Extract Catarrh Cure" is a new addition to the articles manufactured by the POND'S EXTRACT COMPANY, of 14 E. 14th st. To facilitate its use a **Nasal Syringe** is provided (25 cents each), consisting of a rubber bulb having a discharge-tube ending in a soft-rubber tip with several openings.

"Delluc's Biscotine" is a prepared food for infants and invalids, made by DELLUC & Co., 635 Broadway, New York. It is prepared from a sweetened bread and other nutritious substances, rèduced to a fine powder so as to render it easily soluble in water or milk. It is said to be free from a tendency to undergo acid fermentation in the stomach. Its taste is very agreeable.

WILLIAM ROWORTH & SONS, manufacturers of choice confections and pharmaceutical lozenges, send us samples of well-made **Lozenges** of carbolic acid, and carbolic acid and chlorate of potash. The former contains ¼ gr. of the remedial agent, and the latter ½ gr. of carbolic acid and 2 grains of potassium chlorate. They are put up in flat, oval, tin boxes which are well adapted for the pocket.

Lansing's Mica Labels are a decided improvement on the glass labels now in use for bottles. They are made by gilding, silvering, or painting on the reverse side of a thin leaf of mica, and while possessing all the advantages and few of the defects of glass labels, they are as readily applied as paper. They are not affected by acids, alkalies, or heat, and are much less expensive than glass labels of similar appearance. They are made in sizes ranging from $1\frac{1}{2} \times 2\frac{5}{8}$ inches to $2\frac{5}{8} \times 5$ inches. Send a three-cent stamp to FREDERICK STEARNS, Manufacturing Pharmacist, Detroit, Mich., for a sample.

India-Rubber Caps for Vials and Bottles.—J. I. GRIFFIN, of Jacksonville, Fla., is the inventor of an india-rubber cap for bottles, which is made of vulcanized rubber and is elastic, so that the three sizes can be used for vials or bottles of sizes ranging from a half-ounce to two gallons. The three sizes when detached from the bottle, hold respectively ½ dr., 1 dr., and 2 drs., and can be used, when occasion requires, as dose-measures. They will prove very serviceable in holding corks in place when bottles are packed in trunks, travelling bags, medicine cases, etc., and will be equally efficient in preventing the evaporation of the contents of bottles holding volatile substances. In some cases they will serve to close the necks of bottles or vials without the necessity for using cork. Further details can be learned by addressing either the inventor, or Hall & Ruckel, 220 Greenwich Street, New York.

Anti-Moth Paper.—GARRETT & BUCHANAN, 35 and 37 Decatur Street, Philadelphia, are the makers of a paper which is admirably adapted for wrapping woollen and fur clothing to preserve them from moths during the summer. The paper is thoroughly impregnated with a tarry substance having a decided and rather agreeable odor. It is stated that there is no risk of injury to the finest goods from contact with the paper, and its efficiency as a protection against moths is assured.

Dr. M. P. Beecher's Pearl Pellets are lozenge-shaped tablets of solidified tooth-powder which are intended to be crushed in the mouth, to bring them into a state which admits the use of a tooth-brush. This mode of using the powder avoids the insertion of a wet brush into the box or bottle holding the powder, and the "caking" of the latter.

FORMULAS.

Anti-Epileptic Pills.—DR. HERMANN HAGER, in the *Ergänzungband* (p. 129), to his *Handbuch der Pharm. Praxis*, states that he received for examination, about two years ago, ten pills, being portion of a quantity ordered by some physician for a young man of eighteen years of age, who suffered from epilepsy. The name of the physician was not known to him. As the source of the pills was not stated at the time, Dr. Hager did not examine them, but he has done this lately, and has found that they were prepared about after the following formula:

℞ Atropiæ sulphatis	0.10	gr. 1½
Strychniæ nitratis	0.20	gr. 3
Quiniæ sulphatis	2.00	gr. 30
Potassii bromidi, Extract. trifolii	āā 10.00	āā gr. 150
Glycerini, Althææ rad.	āā 3.00	āā gr. 45
Artemisiæ rad.	q. s.	q. s.

Mix and make 200 pills. Dust them with lycopodium. Dr. Hager states that, possibly, some extr. saponariæ or powdered saponaria root were contained in the pills, as the aqueous solution exhibited a slight foaming. The original pills were sold at a most exorbitant price.

Essence Bouquet Sachet Powder.—

Powd. orris root	1 pound.
Musk	10 grains.
Oil of rose	2 drachms.
" lemon	1 drachm.
" bergamot	4 drachms.

Mix well by passing through a sieve.

Essence Bouquet Cologne.—

Oil of bergamot	8 drachms.
" lemon	2 "
" rose	3 "
Essence of orris root	8 ounces.
" musk	2 "
Cologne spirits	8 pints.
Rose water	1 pint.

Mix.

Ylang-Ylang Cologne.—

Oil of ylang-ylang	2 drachms.
" rose	1 drachm.
" neroli	½ "
Ext. vanilla beans (true)	2 ounces.
Tinct. tolu	8 "
Cologne spirits	1 gallon.
Rose water	1 pint.

Mix, and after standing a few days, filter through carb. magnesia.—C. R. AVERY, Brooklyn, N. Y.

Tan and Freckles.—A specialty, which would probably command an extensive sale amongst ladies, is one which would effectually remove the effects of tan and freckles.

The following formula, said to be that of Professor White, is reputed to be most successful for this purpose:

℞ Hydrargyri bichloridi	gr. vi.
Acidi muriatici diluti	℥ i.
Aquæ	℥ iv.
Alcoholis, Aquæ rosæ	āā ℥ ij.
Glycerini	℥ i. M.

Apply at night, and wash from the skin with soap in the morning.

Perfumed Carbolic Acid.—Perfumed carbolic acid is prepared from carbolic acid, 1 part; oil of lemon, 3 parts; alcohol (36 degrees), 100 parts. Mix. This mixture, which appears to be quite stable, and has only the odor of lemon, is what has been known as "Lebon's perfumed carbolic acid," the formula of which has long been a secret,

but has been made known in the *Moniteur Scientifique* of Paris. The antiseptic properties are in no way affected by the oil of lemon.—*Med. Press.*

Pilocarpine has been recommended by DR. GEORGE GUTTMANN, of Cronstadt, as a remedy in diphtheria and other inflammatory affections of the tonsils, pharynx, and larynx. In six cases of diphtheria, its use was followed by recovery in two to four days.

For children he employed the following formula:

Muriate of pilocarpine	gr. ⅛ to ⅜.
Pepsin	gr. x. to xxij.
Hydrochloric acid	gtt. ij.
Distilled water	ʒ viij.

A teaspoonful to be taken hourly.

For adults:

Muriate of pilocarpine	gr. ½ to ¾.
Pepsin	gr. xxx.
Hydrochloric acid	gtt. iij.
Distilled water	ʒ viij.

A tablespoonful hourly.

He is accustomed to give a small amount of good wine after each dose.—*Berliner Klin. Woch.*, Oct. 4th, 1880.

DR. EDMUND C. WENDT publishes in the *Medical Record* of April 9th, p. 400, three cases of diphtheria treated with muriate of pilocarpine, according to Guttmann's formula and directions, and in each case the recovery was quite rapid. In two of them the patients complained of the pain caused by swallowing the wine. In one case chlorate of potassium was used, with salicylate of sodium at the outset of the attendance, and gave no relief, and a return to it afterwards and stopping the pilocarpine was followed by an increase in the severity of the objective symptoms, but on changing again to the pilocarpine a prompt improvement occurred.

[Dr. T. F. Rumbold, of St. Louis, says that his experience in *hundreds of cases* of simple and agravated sore-throat, whether diphtheritic or otherwise, has convinced him that the use of chlorate of potassium is not only useless, but positively harmful (*vide* NEW REM., 1879, p. 210). —ED. N. R.]

Expeditious Process for Tinctura Opii Camphorata.—MR. J. B. MOORE.

℞ Powdered opium (M. 5)	½	troy ounce.
Benzoic acid	½	"
Camphor	160	grains.
Oil of anise	4	fl. drachms.
Clarified honey	8	troy ounces.
Boiling water	70	fl. ounces.
Stronger alcohol	58	"
Water	sufficient.	

Pour the boiling water upon the opium in a suitable vessel, digest the mixture, with frequent stirring, for a half-hour, at a temperature of 170° to 190° Fahr. Then transfer the mixture to a suitable bottle, add to it the alcohol, and to the whole add enough water to make 8 pints. Dissolve the camphor in the oil of anise with the aid of a mortar, and to the solution add the benzoic acid, and rub well. To this mixture gradually add the honey, and triturate thoroughly until a smooth mixture is formed. Lastly, add the mixture to the 8 pints of menstruum, shake vigorously, and filter through paper.

The objectionable elements of the opium may be avoided by straining the digested opium, while the solution is hot, through muslin with strong expression, the residuum to be rubbed by means of a spatula or between the hands, to a uniform consistence. Then pack it properly in a glass percolator, and gradually pour upon it one pint of the strained liquid, and when it has all passed below the surface continue the percolation with water until one pint is obtained. Add this to the remainder of the strained liquid, and add then sufficient water to make 70 fluid ounces. To this add the stronger alcohol and mix well. The balance of the process is similar to the foregoing.

Dried opium should be used. Sugar should not be substituted for the honey, as the latter is better adapted to making a good and permanent solution, and its agreeable taste also recommends it.—*Drug. Cir.*

Depilation by Resinous Applications.—DR. L. DUNCAN BULKLEY, of New York, recommends the following formula and process for depilation in cases of favus:

Take of	
Yellow wax	3 drachms.
Shellac	4 "
Resin	6 "
Burgundy pitch	10 "
Gum dammar	10 "

Melt them together and form into sticks from ¼ to ¾ inch in diameter and two to three inches long. The hair having been cropped short, the stick is applied with a slight rotary or twisting motion, and after a few minutes removed by bending it sidewise, by which movement the hairs adhering to it will be withdrawn. The hairs thus left on the stick are burned off. In ring-worm of the scalp the disease renders the hairs so brittle that they will break before being pulled out, so that the method will not be applicable in this disease.

Tincture of Kino.—For several years Mr. J. B. Moore has disregarded the pharmacopœial process and adopted another for the manufacture of tincture of kino, which he believes to be superior to it, and which is as follows:

Powdered kino (No. 80)	1½ troy ounces.
Stronger alcohol	sufficient.
Glycerin	4 fl. oz.
Boiling water	8 "
Water	sufficient.

Rub the kino in a mortar, adding the boiling water gradually, until a smooth and uniform mixture is obtained. To the mixture add four fluid ounces of stronger alcohol. Mix well and strain through close muslin. Transfer the muslin strainer containing the residuum to a glass funnel, and wash with a mixture of one part of stronger alcohol with two parts of water, until sufficient liquid has passed to make, with the strained liquid, twelve fluid ounces. To the product add the glycerin, and mix well. After standing a few days a sediment collects which may be separated by decanting with a siphon as much as possible of the clear fluid. The remainder may be strained through cotton or paper. Thus prepared the tincture is not apt to gelatinize.—*Drug. Cir.*

Fothergill's "Dinner Pill" consists of

Pulv. ipecacuanhæ	gr. i.
Strychniæ	gr. ⅛.
Ol. piper. nig	♏ ij.
Pil. aloes et myrrh	gr. iiss.

The ipecacuanha is recommended for its action upon the gastric mucous membrane and as a hepatic stimulant. Arsenic (3 drops of Fowler's solution) may be taken by itself after the meal, or it may be substituted for the strychnia in the above formula. [The principal objection to either is the difficulty of accurately dividing these powerful remedies in a pill-mass, for which reason nux vomica, in the form of an extract, if preferable, and in the case of the arsenic a solution is safest in any case.—ED.]

Label Varnish.—An excellent varnish, which dries in a few seconds, and produces a colorless, smooth, and shining coat, is prepared, according to R. KIRSTEN, from the following:

Sandarac	53
Mastic	20
Camphor	1
Oil of lavender	8
Venice turpentine	4
Ether	6
Alcohol	40

The ingredients must be macerated for weeks, until everything is dissolved. It is, therefore, advisable to prepare a sufficient quantity, to last for some time, at once. —*Pharm. Zeit.*, 1881, No. 13.

Lily of the Valley Extract.—

Essence of jasmine	1 oz.
" orange flowers	1 oz.
" acacia	2 oz.
" tuberose	4 oz.
Oil of bitter almonds	1 drop.
Cologne spirit	4 oz.

Pectoral Lozenges (Southworth's).—

℞ Ammonii chloridi	ʒ 3
Extr. glycyrrh	ʒ 1
" cannabis ind	ʒ ¼
" ipecac. fl	ʒ ¼
" senegæ fl	ʒ ¼
Tragacanthæ	ʒ 2
Sacchari	ʒ 18

Make into 480 lozenges. Some flavoring material may be added, as, for instance, essence of vanilla. Dose, 1 to 3 lozenges occasionally.

Salicylated Starch, which is highly recommended by Kersch, as an application in eczema, is prepared by gradually incorporating pure starch, in small quantities at a time, and under continued stirring, with a 2 to 3 per cent solution of salicylic acid in alcohol. The latter must be present in such quantity that, when the starch has settled, it is still covered by a layer of the solution. The latter is then poured off, the residue pressed in stout muslin, and dried at 80° C. (176° F.).

The affected parts are first deprived of scales, grind, etc., with a 2% solution of carbolic acid and potash-soap. They are then dried with absorbent, antiseptic cotton, then moistened with a 2% solution of salicylic acid in alcohol, and finally densely covered with salicylated starch. —*Wien. Med. Blätt.*, 1881, 1.

Remedy for Migraine (Hemicrania).—*Pulvis antihemicranicus imperialis.*

℞ Quinidiæ sulphatis	1.50 gm.	=	24	grains.
Caffeinæ	1.00 "	=	15	"
Acidi tartarici	1.00 "	=	16	"
Morphiæ puræ	0.05 "	=	¾	"
Sacchari albi	10.00 "	=	150	"

Mix and make into 5 powders.

One of these is to be taken mornings and evenings. Said to be a sure remedy in hemicrania. If necessary the quantity of morphia may be slightly increased. Feeble persons should divide each powder in two parts, and take both within an hour. Black coffee is the best vehicle for administering these powders.—Dr. Hermann Hager in *Pharm. Centralh.*, No. 8.

Liquid Quillaya Dentifrice.—

a. Soap-bark, in coarse powder	½ oz.
Alcohol	3½ fl. oz.
Water	5 fl. oz.

Macerate for 10 days, and filter.

b. Peppermint water	4 fl. oz.
Cochineal	8 grains.
Oil of wintergreen	30 min.
Glycerin	2 fl. oz.

Macerate for 10 days, and filter. Then mix the two solutions, and add enough water to make the whole measure 24 fl. oz.—*The Chem. Journ.*

Mistura Quiniæ Salicylatis.—A convenient method for the extempore preparation and administration of salicylate of quinine is the following:

℞ Acidi salicylici	ʒ 1
Quiniæ bisulphatis	gr. 10
Syrupi	fl. ʒ 1
Liquoris ammoniæ fort	fl. ʒ 1
Aquæ	fl. ʒ 16

The bisulphate of quinine and the salicylic acid are shaken with 8 fl. oz. of water and allowed to stand for a short time, then the ammonia is added under renewed agitation, finally the syrup and the rest of the water. Occasionally it is necessary to add a little more ammonia to produce a clear mixture.—*The Lancet.*

Caoutchouc Cement for Rubber Goods.—Dissolve 10 parts of caoutchouc, in small pieces, in 280 parts of chloroform, by maceration. Melt 10 parts more of finely cut caoutchouc with 4 parts of resin, add 1 part of turpentine, and dissolve the whole in 40 parts of oil of turpentine. Then mix the two solutions. For use dip a piece of linen in the cement, and apply it to the torn article of rubber, which should also receive a layer of the cement before and after the application of the linen.

A Preventive of Mercurial Stomatitis, recommended by Dr. Jules Simon, is as follows:

"Eau de Botot" (artificial)	fl. ʒ vi.
Tinct. cochleariæ	fl. ʒ iiss.
" cinchonæ	fl. ʒ ij.
" catechu	fl. ʒ i.
" benzoini	fl. ʒ ss.

M. A small quantity mixed with water is used as a gargle morning and evening after meals.—*Med. Times.* [Equally serviceable, in all probability, would be the use of a tooth-brush with soap-water after meals, and after each application rinsing the mouth with a solution of chlorate of potassium.—Ed. N. R.]

NEW PATENTS.

[*Complete specifications and illustrations may be obtained of any one or more of the following patents by sending the number, title, name of patentee, and date of issue, with twenty-five cents for each copy, to the Commissioner of Patents, at Washington, D. C., together with the name and address of the person requesting the same.*]

February 1st, 1881.

237,113. *Apparatus for Recovering Soda from Waste Alkaline Liquor.*—Samuel Lee, West Manayunk, Pa.

237,134. *Filtering Apparatus.*—Charles H. Senff, New York, and Paul Casamajor, Brooklyn, N. Y.

237,167.—*Electro-Magnetic Apparatus for Medical Use.*—John Butler, New York, N. Y. One electrode is formed as a driving roller.

237,213.—*Nose-Piece for Eye-Glasses.* Wm. J. Suttie, New York, N. Y.

237,273. *Table Beverage.*—Thomas F. Henley, London, assignor to the Date Coffee Company (Limited), Walbrook, London, England. Patented in England, Nov. 15th, 1880. The process of treating date fruit consisting in subjecting the whole fruit to torrefaction, then separating the pulp from the seeds, then roasting and grinding the seeds, and mixing the resulting powder with the pulp.

February 8th, 1881.

237,426. *Vaginal Syringe.*—Franz Wilhöft, New York, N. Y. A valveless vaginal syringe, consisting of a bulb and an enlarged, blunt, conical nozzle or obturator, with a contracted neck between them, the whole being made of soft rubber in one piece.

237,448. *Evaporating-Pan.*—Thomas E. Scuntlin, La Fayette, Ind.

237,449. *Preserving Fruit Juices.*—Edward G. Schaumberg and Victor C. Dillman, St. Louis, Mo. The process consists in bottling and sealing the juices, and then in heating the bottles and their contents to 170° F. (76.6° C.) for 35 minutes.

237,468. *Apparatus for Medicating Air.*—Anthony Bell, Newcastle-on-Tyne, County of Northumberland, Great Britain. Patented in Great Britain, Nov. 27th, 1879.

237,434. *Process of Refining Vaseline.*—Robert E. Chesebrough, New York, N. Y. The process of refining vaseline, petroleum oil, and residuum by keeping them just at the point of vaporization in an open vessel until the disagreeable smelling portions are driven off, and afterwards filtering through bone-black.

237,525. *Filter-Press.*—William H. Harris, Buffalo, N. Y.

237,560. *Oil-Still.*—Max Livingston, Pittsburg, Pa.

237,649. *Evaporator.*—Edwin R. Whitney and Joseph Simpson, Montreal, Quebec, Canada.

February 15th, 1881.

237,727. *Apparatus for Washing Bottles.*—Charles Callahan, Lowell, Mass.

237,736. *Ointment.*—Edward Frankford, Lockport Township, Will County, Ill. An ointment composed of mutton-tallow or unsalted butter, resin, gum, pitch (white pine resin), honey, beeswax, spirits of turpentine, oil of cumin, oil of rhodium, oil of cedar, oil of hemlock, balsam of fir, and tincture of cantharides.

237,751. *Surgical Splint.*—William H. Johnstone, Philadelphia, Pa., assignor to William E. Bloodgood, Plainfield, N. J.

237,759. *Manufacture of Hop Extracts.*—William A. Lawrence, Waterville, N. Y. The method consists in extracting the valuable properties of hops by subjecting them in a suitable digester to the action of described ethylic and methylic products of an alcohol radical, at suitable temperature, and separating the solvent from the extract after saturation by distillation.

237,775. *Fracture Apparatus.*—Ebenezer Raynale, Birmingham, Mich.

237,779. *Press-Plate for Oil-Presses.*—Jacob H. Small, Baltimore, Md.

237,816. *Purifying Sulphate of Alumina.*—William Chadwick, Thomas Chadwick, and James Chadwick, Manchester, and Josiah W. Kynaston, Liverpool, County of Lancaster, England. Patented in England, Oct. 9th, 1879. In the purification of sulphate of alumina, alum, or alum cake, the process of removing the iron therefrom by adding ferrocyanide of calcium, or other soluble ferrocyanide, until the iron in the solution is precipitated, and then precipitating the arsenic by a soluble sulphide, and by this means carrying down the suspended ferrocyanide.

237,835. *Purification of Syrups and Molasses in the Manufacture of Sugar from Beet-Root and Cane.*—Auguste P. Dubranfant, Paris, France. Patented in France, March 30th, 1880. The method of subjecting the liquor in a heated condition with lime to the action of osmose in connection with the calco-carbonic treatment, or treatment with lime and carbonic acid.

237,861. *Soap-Cake.*—John H. Hare, Baltimore, Md. A cake of soap having an elastic string or other elastic suspensory attachment molded or pressed into the soap.

237,917 and 237,918. *Production of Oxychinoline.*—Zdenko H. Skraup, Vienna, Austria, assignor to Badische Anilin and Soda Fabrik, Baden, Germany. As a new article of manufacture, oxychinoline, produced by the action of glycerin and sulphuric acid upon a mixture of para-nitro-phenol and para-amido-phenol, substantially as described, or by any other means which will produce a like result.

237,926. *Truss.*—Levi B. Stuart, Seymour, assignor of one-half to Frederic Durand, Huntington, Ct.

February 22d, 1881.

237,946. *Bottle-Stopper.*—Henry Barrett, London, England. Patented in England, May 10th, 1879.

237,947. *Sphygmograph.*—William H. H. Barton, Yarmouth, Mass.

237,948. *Device for Restoring Facial Symmetry.*—Fanny C. Batcheler, Boston, Mass.

237,949. *Finger Compress.*—*Ibid.*

238,015. *Ointment.*—Harding Yates, Noble, Ill. A composition for treating piles, consisting of lards, lead, tin, copper, zinc, and resin.

238,022. *Hog Cholera Compound.*—Lewis L. Bockes. Flowers of sulphur, saltpeter, Venetian red, sal-soda, gum camphor, anise-seed, and chalk.

238,032. *Cork Cutting Machine.*—Frank L. Blair, Alleghany City, Pa.

233,158. *Cork-Fastener.*—Robert Robinson, Brooklyn, N. Y. A cork-fastener consisting of one piece of flexible material in the form of a triangular loop and twisted between two of its corners to separate them and having two projecting free ends with which to complete the fastening.

ITEMS.

The Summer Lectures in Pharmacy, at the College of Pharmacy of the City of New York, began on the 2d of May. The summer courses in Botany and Practical Chemistry are also in session, and are well attended.

The New York State Pharmaceutical Association is to meet at Buffalo on Wednesday and Thursday, the 18th and 19th of May. The Local Committee, in conjunction with Mr. R. K. Smithers (585 Niagara street), the Assistant Secretary, have chosen the building of the Young Men's Christian Association, corner of Elliot and Clinton streets, as the place of meeting, and the association will be convened in the main hall at 11 A.M., on the 18th. Members who have prepared papers in reply to queries, or who have volunteer papers to present, should forward them to the Chairman of the Executive Committee, Mr. Willett L. Brown, Syracuse, before May 14th, or hand them to the Executive Committee at the meeting. An exhibition of drugs, chemicals, pharmaceutical preparations, apparatus, etc., will be held in the rooms adjoining the one used for meetings, and those who desire space for such purpose should at once communicate the fact to the Assistant Secretary.

St. Louis College Pharmacy.—The commencement exercises (15th annual) were celebrated on Tuesday evening, March 15th, at Liederkranz Hall, cor. 13th st. and Chouteau ave. The diploma of the college, conferring the degree of Ph.G., was handed by President Wm. H. Crawford to the following gentlemen of the graduating class: Wm. Bade, Fred. W. Conradt, Henry Drewes, Jr., Chas. E. Fisher, Henry F. Griesbach, Joseph E. Hilby, Albert H. Fluke, Julius F. Lohrmann, Maurice E. Pirner, Henry J. Remme, Chas. F. Seidlitz, Ferd. G. Uhlich, Joseph W. Wittmer, Herman H. Blomeier, Henry F. Dannenhaus, James W. Faught, Frank E. Fisk, Oscar F. Heitmeyer, Edward B. Joesting, Wm. J. A. Kohrnmel, Robt. J. Murphy, Chas. R. Ray, Adam B. Roth, Chas. W. Tomfohrde, Geo. W. Wilson, Geo. W. Wunderlich, Oscar M. Zesch.

The medal of the Alumni Association was awarded to Chas. E. Fisher, Ph.G. The following received honorable mention: Robt. J. Murphy, James W. Faught, Frank E. Fisk, Joseph W. Wittmer, Fred. W. Conradt, Geo. W. Wunderlich.

The valedictory address on behalf of the faculty was delivered by Prof. O. A. Wall, M.D., and on behalf of the graduating class by Chas. E. Fisher, Ph.G.

A social reunion closed the exercises.

G. H. CHAS. KLIE, *Cor. Sec.*

Prof. Julius Vogel, who, with Prof. C. Neubauer, was the author of the well-known "Guide to the Qualitative and Quantitative Analysis of the Urine," recently died in his sixty-seventh year.

Louisville College of Pharmacy.—The following officers were elected at the recent annual meeting: *President*, Dr. V. Davis; *Vice-Presidents*, Emil Scheffer, Sr., Geo. H. Cary; *Treasurer*, C. Tafel; *Recording Secretary*, F. C. Miller; *Corresponding Secretary*, J. A. Flexner; *Curator*, Dr. Wiley Rogers. These gentlemen, with Messrs. C. Lewis Diehl, P. F. C. Biehl, E. Scheffer, Jr., Dr. B. Buckle, and John Colgan, constitute the Board of Direction for 1881–2.

The session just closed has been the source of sincere pleasure to the Board of Directors, by reason of the continued success of the school in all its departments. All of the candidates for graduation passed very satisfactory examinations, this being the first time in the history of

the school in which no candidate was rejected. A considerable portion of bonded debt of the school will be liquidated soon, and the prospects of the college were never brighter.

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At 8 o'clock quite a number of prominent druggists assembled in Veteran Hall, among whom were Edmund Bocking, T. H. Logan, John Laughlin, R. A. McCabe, F. H. Lange, Chris. Schnepf, W. H. Williams, John and Robert McLain, W. T. Derry, S. L. Brice, J. W. McCoy, Mr. Scott, Heber List, Charles Moenkemoeller, A. T. Young, J. S. Reed, and William Gray. Heber List presided, and S. L. Brice acted as Secretary.

Mr. Bocking stated the object of the meeting, and moved that a Committee of Arrangements be appointed.

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The purposes and objects of the proposed State Association were discussed at some length, after which the meeting adjourned.

An adjourned meeting was afterwards held, at which it was determined to ask the Board of Public Works not to appoint the three Commissioners whose appointment is provided for in the bill, until after the meeting of the State Association on June 1st.

The Annual Production of Quinine.—It is stated that efforts are about to be made to acclimatize the cinchona in Italy [? ED. N. R.], so as to increase the supply and lessen the cost of the manufacture, which is an important branch of Italian industry, and has been carried on at Milan and Genoa since 1870. The yearly consumption of quinine in Italy is 22,500 lb., of which one-half is made in Milan, 6,750 lb. at Genoa, and the balance imported from Germany. The present annual production of quinine throughout the world is estimated as follows: America, 63,000 lb.; Germany, 56,250 lb.; Italy, 45,000 lb.; France, 40,000 lb.; England, 27,000 lb.; India, 12,500 lb. The Milan factory sends large supplies to Russia, France, and Austria. England is a considerable customer, and one-half of the Dutch consumption comes from the same source.

Glucose.—The wonderful impetus that has recently been given to the manufacture of glucose from corn, has awakened an interest in the early history of the industry and its introduction into this country. Mr. Bradley, one of the original inventors of the process of producing those articles from corn, writes in reference to it as follows:

"Grape sugar was long before made from potatoes in Europe, and came here at a cost of from eight to twelve cents a pound, in gold, when gold was at a premium of 40 per cent. But sugar from corn was not then known. In the year 1863, F. W. Gessling and Lyman Bradley, in the city of Buffalo, improvised a small factory for experimenting, to see if grape sugar, glucose, and syrup could be made from corn. Although sneered at and ridiculed by their friends as insane, they, by their persistence, succeeded, and in 1864 they obtained a patent, which may be seen on the records at Washington. In July, 1864, a committee of sugar manufacturers and chemists from New York visited Buffalo as experts, to report as to the value of the invention. They remained several days testing the process. They returned, and others from New York took their places for the same purpose. The patentees employed a well-known citizen of Buffalo to negotiate a sale of the patent, and on the 10th of November, 1864, a sale was made for $600,000, a stock company formed with a capital of $1,000,000, and stock issued, some of which may be seen bearing that date."

From the supposed folly of Gessling & Bradley has grown up a business in which nearly $30,000,000 is invested. Grape sugar has been made from potatoes and imported here to be used in making wine, costing near twelve cents per pound, it being better than cane sugar for that purpose, it having no taste but sweet if properly made. No grape sugar, no glucose, no syrup, was ever made on this continent or elsewhere from corn until after the invention so made by Gessling & Bradley, and if any credit is due to any one for inventing a process which is proving to be so valuable, the meed of praise belongs to them. For now, instead of importing an inferior article of grape sugar, made from potatoes, at a cost of eight or twelve cents a pound, large quantities of grape sugar made from corn are exported at three cents a pound.—*The Druggist.*

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Won't some chemist invent a face powder that does not contain lead and tastes good? Our young men are all dying of lead poisoning, and kissing is going out of fashion.

PHARMACEUTICAL CALENDAR.—May.

N. B.—The officers of Societies, Colleges of Pharmacy, Pharm. Associations, etc., will oblige us by forwarding schedules of their meetings, lists of officers, and any changes that may be desirable.

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GEORG C. WITTSTEIN, PH. D.,

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GEORG C. WITTSTEIN, PH. D., OF MUNICH.